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A description of the effects of a staff development project on the attitudes and commitment of a selected group of administrators : toward implementing management-by-objectives in an urban college.

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A DESCRIPTION OF THE EFFECTS OF A STAFF DEVELOPMENT PROJECT ON THE ATTITUDES AND COMMITMENT OF A SELECTED GROUP OF ADMINISTRATORS TOWARDS IMPLEMENTING MANAGEMENT-BY-OBJECTIVES IN AN URBAN COLLEGE

A Dissertation Presented

By

Mary Batchelder Koch

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A DESCRIPTION OF THE EFFECTS OF A

STAFF DEVELOPMENT PROJECT

ON THE

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OF ADMINISTRATORS

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DEDICATION

To J. P.
whose off-handed comments,
"Keep at it, Mom," or "You
type and I'll do dishes,"
maintained my inertia.

PREFACE

This study was designed to look at the change process and examine the effects of a staff development project for initiating a Management-By-Objectives program in an urban K-12 school system. However, with the loss of its key supporter, a deputy superintendent, the project faltered. Support for MBO dwindled; the project was delayed several times and finally dropped.

The study design was literally transplanted to a public college in the same city. Through contacts with members of the Department of Management when designing the questionnaire, the author was aware that Worcester State College was implementing an MBO program with its administrators. Dr. Richard Jurwalewicz, chairperson of the department and designer of their MBO program, assisted the author with the study. He and the Worcester State College president, Dr. Joseph Orze, helped the author fill in the pieces of the change process.

Though the setting had changed from an urban K-12 system to an urban public college system, the basic study design remained unchanged. The experience, at first devastating, provided the author with the opportunity to compare two change processes in somewhat similar settings with the same stated goals....thereby multiplying the learning experience of completing a dissertation in a real world. Indeed, the change in setting provided evidence for the author's assumption that commitment for a change is critical; it must be there at the beginning, or the change will not occur.

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Attempting a dissertation helps prove that nothing much happens without a great deal of assistance and some measure of good fortune. The author's advisors make a case for both points. Gratitude is extended to Dr. Byrd L. Jones and Dr. Barbara J. Love from the School of Education and Dr. Stephen R. Michael from the School of Business Administration at the University of Massachusetts, Amherst.

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Steadfast encouragement from long-time friends helped make the enterprise less lonely and more worthwhile. As always, my son, J. P., was an inspiration and an impetus.

ABSTRACT

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(June 1977)

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The goal of this study was to assess the effects of an MBO training program on the attitudes about management and degree of commitment towards implementing a Management-By-Objectives system in an urban public college. With a questionnaire designed by the author the study also looked at changes in the participants' perceptions about the utility of the MBO process and its applicability to college management.

The study traced the history of the decision to implement an MBO system with Worcester State College administrators and to use a particular training program as a first phase of a three-year implementation process. The description paid particular attention to circumstances in the organizational setting which led to the perceived need for a Management-By-

Objectives program. The setting survey used a questionnaire adapted from the Rand Corporation's analysis of institutional characteristics affecting the change process. Interviews with principal actors were used to describe how MBO came to be perceived as a solution to effective management.

The pre-post attitude survey looked at the impact of a Management-By-Objectives training program on participants' perceptions of their and subordinates' roles in improving individual performance and achieving organizational goals. Also, changes in participants' attitudes about elements considered important to a successful MBO process were compared on the pre-post tests. The questionnaire examined the effects of the training program on participants' perceptions of the value of MBO to college management and their willingness to implement the system.

Changes in 23 mid-level administrators' attitudes were compared with attitude changes of 19 volunteer administrators from a similar urban institution in the same state college system.

Implementing assumptions for the study included:

It is necessary to establish commitment of participants prior to implementing a complex change program.

Factors and events within the setting will affect how participants view Management-By-Objectives and their attitudes towards implementing the program.

Training is important for initiating a complex change program.

Individual commitment for implementing a change program can be represented by an expressed willingness to implement the program along with a perceived high value of the program.

Important elements of a Management-By-Objectives process include a willingness on the part of school managers to:

participate in collaborative goal setting;
delegate authority consistent with responsibility;
provide feedback and open communications;
promote self-direction and self-control;
promote self-evaluation and individual development; and,
base performance evaluation on results achieved.

Administrators who express positive attitudes towards elements implicit in the MBO process will also express a willingness to implement the program.

As a result of training, administrators' perceptions of the utility and value of the MBO process will increase.

Personal characteristics of the respondents will affect their perceptions about the MBO process and its value to management.

The pre-post attitude questionnaires were administered to the training and control groups during the training time sequence, approximately one month apart.

The setting survey indicated that decisions to implement Management-By-Objectives followed the Rand dimensions for looking at change, where knowledge and communications were less important and dependent upon: the role of principal actors, the institutional setting, and characteristics of the innovation.

Again, as in the Rand model of the change process, four

factors interacted at different times during the initiation stage: local needs, the incentives of individual actors, a "good idea," and the availability of resources.

Compared with the control group, the training program did affect participants' attitudes about their management roles. Managers saw themselves as improving individual performance and achieving organizational goals by being significantly less directive and controlling. They perceived subordinates as significantly more participative and self-directing.

Training also appeared to have a significant effect on participants' attitudes about elements implicit in the MBO process. Participants exhibited more positive attitudes towards participative goal setting, providing feedback and open communications, and willingness to promote self-evaluation and individual development. Compared with the control group, participants' MBO Readiness Quotient (RQ) increased significantly. Clearly, the training program affected participants' attitudes about their roles and about relationships implicit in the MBO process.

While attitudes about roles changed significantly, attitudes about implementing MBO changed relatively little. Participants were committed to implementing the MBO program to a significant degree before the training program began. In fact, the reality of the process appeared to diminish slightly participants' expectations for the MBO program.

Commitments, evidently made early in the initiation stage, affected what happened when implementation began.

Developing commitment and receptivity of individual actors for a proposed change was seen as a critical first strategy. Commitment of individual participants for the program did not build once the program began. Training appeared to have more of an effect on changing attitudes implicit in the MBO process than on attitudes about the process.

TABLE OF CONTENTS

LIST OF TABLES

Table

LIST OF FIGURES

Figure

CHAPTER ONE

THE PROBLEM AND ITS SETTING

Introduction

Faced with the failures of past change efforts, declining enrollments, stringent economics, and the push for accountability, educational institutions need to develop reality-based strategies which can initiate and sustain change. Change in a functioning organization requires that managers look at what happens when a program impinges on the reality of the setting and interacts with characteristics of its members.

Staff development programs in schools and colleges have generally been based on the notion that "when one knows better, one will do better." Yet there are many indications in research and literature that response to change is not entirely rational, that interactions among the change project, the setting, and the actors trace a precarious path for the original goals of a program.

Urban public administrators have largely ignored how these factors affect a change project. Changing tasks, structures, or processes in a system generally boil down to modifying behavior, in other words, changing people. Changing skills or roles of individuals in a functioning organization depends upon both the setting and the actors. Paying attention to these interactions is essential for systematically planning and effecting change in school organizations.

Evolving notions about the nature and complexity of human behavior have changed perceptions of what in organizations is important to change and about how to effect innovation (See Miles, 1964; Bennis, 1969; Leavitt, 1973). Traditionally emphasis in education has shifted between changing inputs and outputs with little thought to changing organizational processes or structure. There are now signs to the contrary. In discussing the resistance of public organizations to change, Jon G. Jun, Chairperson of Public Administration at California State University, contended that drastic change may not be possible unless there is a radical change in our administrative institutions. He maintains that improving performance of public organizations may first require changing ingrained values of bureaucratic executives (1976, p. 2). Ideas about managing change in education appear to be also correlated with a gradually evolving view of the complexity of the organization and of the change process itself (See Havelock, 1973; Miles, M., 1969; Rand, 1975).

Reality has challenged the popular view that the content or demonstrated efficacy of an innovation will be enough to convince a rational person (Miles, M. in Carver and Sergiovanni, 1969, p. 375). The means for accomplishing change through people has in a general way shifted from directive, to manipulative, to collaborative mechanisms, depending on basic assumptions about the capacities and needs of individuals

functioning in the organization (See Leavitt in Batlett and Kayser, 1973, pp. 31-45).

Presently neither the analytical nor theoretical literature on planned change provides much insight into understanding this mutual adaptation process. Warren Bennis contended there has been no "theory of changing" with predictive value for evaluating proposed strategies (In Bartlett and Kayser, 1973, p. 67). Harold Leavitt suggested a need for a theory of organizations which would integrate human, technological, and structural processes in order to understand how change affects organizations (In Bartlett and Kayser, 1973, p. 44). Throughout his book, The Culture of the School and the Problem of Change, Seymour Sarason (1971) emphasized the incomplete understanding of the change process and the necessity for developing a theory of change.

Major theorists view planned change as linking theory and practice, translating knowledge into action. The process usually involves a change agent, a client system, and a collaborative attempt to apply valid knowledge to the client's problems (See Bennis, Benne and Chin, 1969). The term "change agent" implies some degree of expertness for solving problems, not necessarily for translating the proposed solution into reality. The change agent tends to spend more time on implementation through counselling, training, management development schemes, etc. than on direct management. The client system can refer to the entire organization or some

subgroup within which the proposed change occurs. The roots of most manifest problems within the organization are generally viewed by planned change theorists as internal human relations problems (Bennis in Bartlett and Kayser, 1973, p. 69).

Current evaluation of education innovation focuses on relating program inputs to outputs. Researchers do not typically look at the process of implementation (Rand, 1975, Vol. 1, p. 10). Consequently, there is little empirical evidence about the process of change or about the components of success and failure. The Rand Corporation's comprehensive review of educational change concluded that theoretical literature on planned change provides little help because, at present, there "exists no analytic understanding of implementation" (Vol. 3, p. 8). Questions of implementation and patterns of institutional response to change are necessary antecedents to identifying policy levers which can affect change and yield an understanding of the process of planned change in education (Rand, 1975, Vol. 1, p. 11).

The innovation interacts with both the setting and the actors, causing varying degrees of adaptation in each of them. Patterns of response during each phase of the process (initiation, implementation, and integration) are affected by different sets of variables. Gaining commitment to the general notion of the need and the specific program promulgated to meet that need must be developed during the initiation stage (See Goldman and Moynihan, 1974, p. 12-14).

There is a need to examine how strategies which attempt to initiate a change process affect the attitudes and comitment of the individuals involved. This premise is based on the assumption that commitment to a specific innovation is a pre-requisite to successful implementation. After examining 293 change projects and conducting 29 comprehensive case studies of schools, Rand researchers concluded that "the initial commitment of the LEA (local education agency) appeared to be a dominant single factor" (1975, Vol. 3, p. viii). A study in England by Garth N. Jones of nearly 200 cases of organizational change concluded that the most critical dimension in change was the receptivity of the client system to change. If the receptivity toward the change was high, successful change usually resulted (1969, p. 109).

Managing change includes planning, directing, and monitoring the process from its initiation to its incorporation into the routine practices of the organization. Anyone who would manage change efforts in school organizations should be aware of what is understood about the nature of the change process and which variables appear to affect that process. He/she must be aware of what the goals of such a program are, along with a good understanding of the complexity and scope of the innovation.

Management-By-Objectives represents a decision-making process intended to integrate individual and organizational goals. The process programs careful consideration of goals,

alternatives, and means, along with individual and organizational effectiveness. Definitions of the process range from a specific management tool for evaluating performance to a collaborative management system. As a system of management, MBO serves to integrate the planning, directing, and evaluating--the control cycle of the organization.

Several different managerial value systems seem to underlie different forms of application of the MBO approach (Hellriegel and Slocum, 1976, p. 413-418). How the system works depends on which managerial role model is dominant--the traditional, human relations, or human resources. As developed by Raymond Miles, the traditional model values authority and position. The human relations model incorporates traditional values, but recognizes human needs for acceptance and recognition. The main thrust of the human resources model emphasizes an abundance rather than a scarcity of human capabilities. Effective management incorporates needs for self-actualization and individual growth.

The prevailing managerial value system will play a crucial role in determining whether objectives are set by higher management and handed down to each level, or an interaction process takes place between supervisors and staff members in the goal-setting process (Hellriegel and Slocum, 1976, p. 413). The setting will affect which definition of MBO will be implemented, whether its major focus will be performance evaluation, collaborative management, or a total approach incorporating all

aspects of the control cycle. A training program which "says" one thing while the setting "says" another may seriously affect the implementation of the concept.

Management-By-Objectives as a collaborative management system may affect the relationships and roles of individuals in the organization. As a collaborative system MBO is rooted in principles of McGregor's Theory Y and R. Miles' human resources model of management. The manager's role is not so much one of controlling organization members as it is facilitating their performance. This logic is carried over into the expectations of the manager. When organization members participate in decisions related to their work and exercise self-direction in carrying out their tasks, performance should improve (Miles, R., 1975, p. 42).

One of the key issues, then, in which MBO approach is used will be the degree to which subordinates are involved in the process of setting objectives. A substantial change in organizational practices would necessitate a complex change in managerial roles and their relationships with subordinates.

Not all MBO implementation has been successful. S. J. Carroll and H. L. Tosi, in an extensive analysis of the success of implementation efforts, concluded that the support and use of MBO by top management was the most important factor in successfully implementing the process (1973, p. 103). Dale McConkey, reporting on a study of 300 organizations implementing

MBO, stressed the need for a complete understanding of the concepts and skills by managers. According to McConkey, the "getting ready" stage must include training for managers in understanding the system and in writing objectives. Developing an understanding of the rationale for and the benefits of the MBO process was essential for establishing commitment on the part of the participants (1975, p. 107).

A decision to implement Management-By-Objectives in a college organization will likely be the beginning of a process exhibiting much instability and variability. The program implemented will probably result from a mutual adaptation among variables in the organizational setting, the MBO approach attempted, and individual members of the organization.

PURPOSE OF THE STUDY

This study will attempt to establish what effect, if any, a staff development program has on the attitudes about and the commitment for implementing a Management-By-Objectives program in an urban public college. Twenty two mid-level administrators at Worcester State College in Massachusetts participated in the second training program. The study will also look at changes in the participants' perceptions about the utility of the MBO process and its applicability to college management.

The major research question asked is:

> Does a training program for administrators, as a first phase of a program to implement Management-By-Objectives in an urban college, affect participants' attitudes about and commitment towards implementing the program in the school and their perceptions about the utility of the concept to management?

The first section of the study traces the history of the decision to implement an MBO program and to use a staff development program as a first phase of a three-year implementation process. The description pays particular attention to circumstances in the organizational setting which led to the perceived need for such a program. This survey traces the roots of the staff development project, how it came to be perceived as a "good idea," and what it was designed to accomplish.

A pre-post attitude survey, designed by the author, examines how the training project affected attitudes of participants towards the MBO process and their willingness to implement the

program. The questionnaire examines changes in participants' attitudes about basic elements of the MBO process:

> collaborative goal setting and decision making;
> providing feedback and open communications;
> delegating authority consistent with responsibility;
> promoting self-direction and self-control;
> promoting self-evaluation and individual development; and,
> performance evaluation based on results achieved.

Participants' attitudes are compared with an approximately equal number of administrators from a similar urban college within the state college system which has not initiated a Management-By-Objectives program.

The study asks a question about one implementation strategy and examines how individuals in the organization respond to that strategy. A basic assumption underlying the study is that commitment to a change program is a pre-requisite to successful implementation of a change program. Implementation appears to be a complex mutual interaction among a plan, an organizational setting, and individuals. One cannot assume that behavior in organizations is simply a product of cognitive rationality or of a logical mode of processing information (Basil & Cook, 1974, p. 182).

Consequently, this study may help accumulate evidence on the effects of one training project for changing attitudes and establishing commitment towards implementing Management-By-Objectives in one urban college. As such, this information may help college decision makers evaluate how effective the training effort was, how much is left to do, and to project the future of a Management-By-Objectives system in their organization.

PLAN OF THE STUDY

This study begins with a survey of literature relevant to the study: Factors in Managing Change, Planned Change in Education, Management-By-Objectives, and the Rand Explanatory Model of the Change Process. The literature search focuses on the change process and implementation research. Particular attention is given to factors which can affect the initiation phase of the process.

The first phase of the study, chapter 3, describes the setting, factors that lead to the decision to implement a Management-By-Objectives system and events within the college which may have affected managers' attitudes about change generally and Management-By-Objectives specifically. A questionnaire adapted from the Rand Corporation's analysis of institutional characteristics affecting the change process forms the basis for this description.

Chapter 4 reports the results from a pre-post attitude survey administered to participants of a training project used to initiate a Management-By-Objectives program at Worcester State College. The questionnaire, designed by the author, assesses changes in administrators' perceptions about the utility of the MBO concept as a management system, perceptions about how they and subordinates should manage their jobs, and their willingness to implement an MBO system. Changes in participants' attitudes are compared with administrators' attitudes in a similar urban institution in the State

College System, Fitchburg State College.

The fourth chapter includes the research design, the methodology, and the questionnaire design and validation. The major research question is detailed and implementing assumptions are listed. Limitations for accepting and generalizing from the data and observations are discussed.

Chapter 5 presents an analysis and evaluation of the data from the survey. The evaluation relates information about the initiation of the MBO program and data collected from the attitude survey. Implementing assumptions are checked against observations and the data. Specific questions detailed in the research design are examined in light of the data. The implications of utilizing a staff development project for implementing Management-By-Objectives at Worcester State College are examined.

DEFINITIONS OF TERMS USED IN THE STUDY

Change--see innovation.

Change agent--any group or individual who acts as a prime mover for initiating and developing a change program.

Client system--any group, subsystem, or organization which is directly involved in the change process and being changed by the process.

Implementation--the phase of the change process that occurs when an innovative program impinges upon an organization.

Incorporation--the third phase of the change process in which the continuation and integration of a project or program occurs in the organization's practices.

Initiation--the first phase of the change process, which includes identification, design, and generation of support for a proposed change within the organization.

Innovation--a plan for change with a statement of goals and means designed to change standard practices, behavior, or procedures.

Project--a plan with a statement of goals and means which is designed to implement some phase or a specific aspect of a change program.

Program--a more comprehensive term than project, refers to a total plan for implementing a concept (except where specifically referring to the staff development program).

Strategy--the means chosen for implementing a project or program design.

Substance of a project--overall goals and treatment content.

CHAPTER TWO

A BACKGROUND FOR PLANNING CHANGE

Factors in Managing Change

Ideas about managing change in education appear to be correlated with a gradually evolving view of the complexity of the organization, of the change process, and of human behavior and motivation. As these fundamental perceptions have changed, the locus of change in organizations has gradually shifted from tasks, to structure, to technology, to people. The means for accomplishing change through people has in a general way shifted from directive to manipulative, to collaborative mechanisms, depending on basic assumptions about the capacities and needs of individuals functioning in the organization (See Leavitt in Bartlett and Kayser, 1973, pp. 31-45). Reality has also challenged the popular view that the content or demonstrated efficacy of an innovation will be enough to convince a rational person (Miles, M., in Carver and Sergiovanni, 1969, p. 375).

The literature surveyed points up both the inevitability and the universality of organizational change. Lack of a theory which could help explain or predict patterns of change or response to change emerged as nearly a proclamation (See Bennis, 1966; Miles, 1967; Leavitt, 1973; Sarason, 1971; Rand, 1975). Yet, problems of managing change have created new and increasing demands on educators to learn how to initiate and to sustain change programs.

Particularly in public institutions and colleges, implementing successful change appears to lag behind the aspirations of nearly everyone. For instance, the Massachusetts higher education system was indicted recently for its failure to respond to a changing environment which included diminishing resources and declining enrollments (Worcester Telegram, May 14, 1977, Sec. B., p. 1). In a Research for Better Schools analysis of change Leon Ovsiew, a consultant to desegregating and troubled school systems, concluded that a principal insight gained from multiple experiences was the "incapability of schools to cope with change itself" (1974, p. 5). Research for Better Schools, Inc. is a Title IV educational research laboratory whose chief focus has been on applying research findings to solving education's institutional problems.

Analyses of failures to successfully implement change and of the change process in functioning organizations have gradually evolved a conclusion by most researchers that the process is subtly intricate, involving numerous interdependent factors (See Sarason, 1971; Miles, M., 1967; Leavitt, 1973; Rand, 1975). Focus on one set of factors, either organizational, group, individual, or the innovation, may result in unforeseen consequences in the others, with resulting dissipation or damage to the goals of the change.

Problems of implementation appear to dominate the success of innovative projects. A decision to adopt an

innovation is only the beginning of a process that exhibits a high degree of instability and variability (Ovsiew, 1974, p. 18; Rand, 1975, Vol. 1, p. 10). As yet, the gap between reality and a change proposal appears to be wide, deep, and unstable. Anyone who would plan and initiate innovative programs in education has no blueprint which can help produce effective results.

In noting program effects related to the difficulty of implementation, the Rand study of nearly 300 innovative projects attributed problems of implementation to two sources. "First, innovation is intrinsically a disruptive process. Problems attributable to inexperience of project participants in planning for change and adapting to its demands were bound to arise. Second, projects encountered difficulties that reflected selection mechanisms, administrative guidelines, and substansive priorities" of the innovative programs (1975, Vol. 2, p. vii). These difficulties included:

> those associated with insufficiently defined goals and inadequate prior planning;
>
> "top-down" problems of complicated and unclear techniques and which required more additional work than the staff could handle;
>
> lack of materials and staff;
>
> those associated with gaining support within the district and the community;
>
> implementation problems that arose from users' unfamiliarity with prescribed materials and methods; and,
>
> adaptation requirements that were not anticipated by the program management strategy.

Patterns of difficulty associated with implementation demonstrated that management strategies have subtle influences beyond the initiation stage (Rand, 1975, Vol. 2, p. vii).

Managers of change should evaluate the following considerations before they design implementation strategies: a careful analysis of the stated goals to determine what roles and relationships the change is designed to achieve; a determination of the scope and complexity of the project; an examination of the setting and its readiness for the new program; and, a careful structuring of the process based on what is understood about the nature of and variables which may affect the change process.

The determination of explicit objectives provides the manager with the basis for deciding both what and how much has to be changed. Explicit goals "straighten out" and narrow the implementation path both for the manager and the participants. Honestly-stated goals also say something about one's assumptions about people and how they function in organizations.

Which roles and how relationships will be changed should be stated before a change is initiated. As Sarason stated in referring to past change efforts in The Culture of the School and the Problem of Change, "They always intended a change in relationships among those who are in or related to the school setting, between professionals and the students, or between

professionals and different parts of society. When we do not state clearly what social relationship changes are desired then a means becomes the goal itself, or it becomes the misleading criteria for judging the change" (1971, p. 48-49).

Explicit and observable goals also allow the manager of a program to consider the centrality or consonance of the goals to the organization. Centrality refers to the degree of displacement of central and routinized behavior that might accompany incorporation of an innovation project. Consonance refers to the degree of congruence or compatibility between perceived goals and practices of an innovative project and pre-existing institutional characteristics (Rand, 1975, Vol. 1, p. 20). Centrality and consonance help a manager establish priorities and determine what, how, and who the change will affect.

John Pincus devised a scheme for the Rand study which described the degree of centrality and consonance of change projects. He categorized the type and degree of change being attempted as:

> increases the level of resource use only;
> affects the resource mix;
> affects institutional processes or methods without altering the resource level or mix;
> affects administration or management without significant alteration of the organization's power structure; or,
> affects either the organizational structure of the school or the school's relation to external authority (Vol. 1, p. 21).

The degree of change will have a great impact on implementation

strategies, resistance to change, and time required to implement a change (See Widmer, 1975, p. 23, 131).

Some notion of the culture of a setting may help a manager make a determination about resistance of the setting to a proposed change. The school setting provides the milieu for a change, either nurturing or extinguishing it. Sarason sees the organizational setting as a culture which possesses a set of traditions affecting perceptions of its members about what they can do about what needs to be done (1971, p. 232). These assumptions and conventions are usually so firmly imbedded in the environment that they are accepted as immutable. Sarason believed that these assumptions may cause the organization to resist change more than does the individual (1971, p. 41; see also Owens, 1970, p. 161). These perceptions of reality define and limit a choice of alternatives. Frequently, in order for significant change to occur, it is these traditions which must be altered.

According to Sarason the ratio of proposals made to proposals implemented is an important variable in predicting the future of an innovative project. His observations of numerous change efforts suggested that the fate of a single proposal for change cannot be understood apart from all other proposals for change. Sarason suggested that this is so because those who have to implement any single proposal for change react to it in terms of their knowledge and experience with other proposals (implemented or not). "If they are

aware, rightly or wrongly, that there is a discrepancy between proposals made and implemented, and particularly if this awareness is associated with feelings of dissatisfaction, it often affects the implementation of the single proposal for change in a way so as to fulfill the prophecy that the more things change the more they remain the same" (1971, pp. 220-221).

Recent research indicated that any particular planned change effort depends on the state or health of the organization in which it takes place. According to Mathew Miles, organizational properties have often been treated peripherally, or left to sit as background phenomena (In Carver and Sergiovanni, 1969, p. 375). Miles contended that the stage of health of an educational organization can tell us more than anything else about the probable success of any change effort.

The following variables within the organization make up what Miles termed organizational health:

> Goal Focus. The goals must be achievable and appropriate, and more or less congruent with the demands of the environment.
>
> Communication Adequacy. There is relatively distortion-free communications vertically, horizontally, and across the boundaries of the system.
>
> Optimal Power Equalization. The distribution of influence is relatively equitable. The basic stance is one of collaboration rather than explicit or implicit coercion.
>
> Resource Utilization. This dimension implies that the system's inputs, primarily the personnel, are used effectively. The fit between people and their roles is good.

Cohesiveness. Members of the organization know "who it is," feel attracted to it, and want to stay in it, be influenced by it, and to exert their influence in a collaborative style.

Morale. The dominant personal attitude of members centers around feelings of well-being and satisfaction, as opposed to unwished-for strain and dissatisfaction.

Innovativeness. A healthy organization tends to invent new procedures, move toward new goals, produce new kinds of products, diversify itself, and become more rather than less differentiated over time.

Autonomy. A healthy organization reacts actively and independently to environmental demands rather than passively and dependently.

Adaptation. A problem-solving, re-structuring approach evolves in both the environment and the organization in coping with demands and pressures.

Problem-solving Adequacy. A healthy organization has well-developed structures and procedures for sensing problems, for inventing possible solutions, for deciding on solutions, and for implementing and evaluating them (In Carver and Sergiovanni, 1969, pp. 375-182).

A general consensus about these factors, applied to the organization or to the group directly involved with the change project, may provide a useful checklist for projecting the future of the project.

Characteristically, change upsets stable relationships within an organization. Human nature appears to resist this disequilibrium. In "Resistance to Change," Goodwin Watson described individual and social factors of resistance (In Bennis et al., 1969, pp. 488-498; For a brief outline of these factors see Michael and Jones, 1973, pp. 464-466):

Selective perception. People respond to situations in terms of their existing attitudes and these tend to be enduring and rather difficult to change. Consequently they are selective in what they perceive and retain, and reality is often distorted or denied in order to avoid the problem of changing existing attitudes.

Primacy. The manner in which a person first copes with a situation tends to become a response pattern which is rather consistent, and subsequent behavior tends to be influenced by initial behavioral patterns.

Habit. The familiar is preferred, and one tenet of learning theory is that people will respond in the familiar way unless the situation changes in some exceptional manner.

Personal involvement. The more emotionally involved a person is the more likely he will maintain a consistent position on that issue.

Michael and Jones summarized social resistance factors developed by Watson as:

Group norms. Norms in social systems are similar to habits in the individual. They provide for expected and customary patterns of behavior. Norms act to unite members of a group and they make it easier for members to work together. Everyone knows what is expected of him. The existence of their shared state makes it difficult for norms to change, and it usually is impossible for a single individual to change them. Success in changing norms requires that alterations occur throughout the system so that new norms are compatible with all members.

Systemic factors. The interdependence of parts to each other and to the whole means that it is difficult to change one segment without affecting the others. Change in one area may have unfortunate consequences on other areas, creating resistance which vitiates the change.

Vested interests. A change which threatens status or economic position will stimulate resistance. Furthermore, the more important the issue to the members the more conformity will exist in their

> attitudes. The stronger the identification with the group the more strongly will their attitudes be defined by the group.
>
> Rejection of outsiders. The impetus for change frequently originates from outside sources such as staff specialists, consultants, and the examples of others. There is a strong tendency to reject changes suggested by these external agents as not being relevant or "not appropriate for our system." A basic strategy is to obtain the participation of local members to avoid the impression that the program is entirely a foreign intervention (Michael and Jones, 1973, pp. 464-466).

Minimizing resistance and securing cooperation is an important political task for a manager of a change program. The more relationships are changed, of course, the greater will become both individual and social factors of resistance to the project.

The concept of the change process, as developed by Kurt Lewin, described change as a three-step procedure of unfreezing, moving, and refreezing of the organization. Unfreezing usually means reducing forces keeping the organization at its present level. As cited by Huse, unfreezing may be accomplished by introducing new information or information which shows discrepancies, by a decrease in the strength of current values, by attitudes and behaviors resulting from new experiences, or by information disconfirming the perception of the organization, the individual, or other subsystems within the organization (1975, p. 50).

The so-called moving step usually involves the development of new values, behaviors, and attitudes through internalization, identification, or change in structure. The third step, refreezing, involves stabilizing the change at a new "quasi-stationary

equilibrium" through the use of supporting mechanisms such as changes in organizational culture, group norms, or modification of policy structures (In Huse, 1975, pp. 49-51).

Models of the change process, whether applied to individuals or to organizations, appeared to follow the fundamental stages detailed by Lewin in his "force-field analysis." This includes the model developed by Edgar Schien with respect to individuals (See Michael and Jones for a description of the Schien model, 1973, pp. 466-467). The model developed by Lippit, Watson, and Westley expanded to add a change agent to help with the process (See Huse, 1975, p. 52). The empirical framework for the Rand model, detailed later in this paper, follows basically the same process, labelling the three stages--initiation, implementation, and integration.

Differing perspectives about how the process occurs guide strategy formulation. If the process is considered essentially self-winding, plans may be developed with the implicit assumption that the course of events will move along, unimpeded. A second approach to the process might be termed the rational planning approach. With this perspective a plan which attempts to foresee contingency events for a projected set of problems is established. Too few strategies may be built in to help ensure adaptability and flexibility. A third approach to the unfolding process is one where the process is viewed as one of mutual adaptation among the setting, the actors, and the project. Planning would both anticipate and

allow for changing realities (See Rand, 1975, Vol. 3, p. 31). Differing perspectives are described more comprehensively in the discussion of the Rand Model of the change process.

Warren Bennis first drew attention to the rationalistic bias of viewing change when he identified eight types of strategies, all of which used knowledge to gain some desirable end. Bennis pointed out that these strategies (exposition, and propagation, elite corps, human relations training, staff experts, scholarly consultation, circulation of ideas, developmental research, and action research) all rely almost totally on rationality. As he stated, "Knowledge about something does not lead automatically to intelligent action" (In Bartlett and Kayser, 1973, pp. 71-72). Bennis summarized the necessary elements in implementation:

> The client system should have as much understanding of the change and its consequences, as much influence in developing and controlling the fate of the change, and as much trust in the initiator of the change as possible.
>
> The change effort should be perceived as being as self-motivated and voluntary as possible. This can be effected through legitimization and reinforcement of the change by the top management group and by significant reference groups adjacent to the client system. It is also made possible by providing the utmost in true volition.
>
> The change program must include emotional and value as well as cognitive (informational) elements for successful implementation. It is doubtful that relying solely on rational persuasion (expert power) is sufficient. Most organizations possess knowledge to cure their ills; the rub is utilization.
>
> The change agent can be crucial in reducing the resistance to change. As long as the change agent

> acts congruently with the principles of the program and as long as the client has a chance to test competence and motives (his own and the change agent's), the agent should be able to provide the psychological support so necessary during the risky phases of change (in Barlett and Kayser, 1973, p. 81).

These elements of implementation appeared largely substantiated by studies cited later in this paper in a detailed examination of the change process.

Critical design and development decisions are made during the initiation phase. What occurs in this phase affects morale, perceptions of success, and the willingness of participants to make extra effort (See the Jones, 1969; Widmer, 1975; Goldman and Moynihan, 1974, studies). The Rand study noted that the chief executive's perception of success formed during initiation, rather than after evaluation, appeared to be an important criterion for continuing a project (1975, Vol. 4, p. ix).

Rand researchers saw support for an innovation as a vector of dependent variables: resource commitment, quantity and quality of staff development, and personal backing of individual actors (as an expressed and voluntary willingness to participate) (1975, Vol. 1, p. 18).

Most research on implementation reviewed by the author emphasized the necessity of developing individual commitment and support prior to implementing a change program (Buchanin in Watson, 1967, p. 51-61; Goldman and Moynihan, 1974; Jones, 1969; Rand, 1975; Widmer, 1975). For instance, the Rand

study reported that no matter what the quality of the project, project leaders underestimated the problem of gaining staff acceptance. Indeed, unless the commitment was there from the start, it never built up once the project began (Vol. 4, p. ix).

An effective change agent must utilize what is understood about this complex process. Translating an idea into a functioning reality rarely represents a smooth transition. Educators, when planning change programs, have paid attention to inputs and disappointing results. Too little attention has been given to variables which affect the implementation process.

Planned Change in Education

Much of the analytical literature on planned change in education focuses on the institutional aspects of innovations, generally agreeing that these factors influence success or failure (Rand, 1975, Vol. 1, p. 6). The Rand Corporation's comprehensive study of nearly 300 federal programs supporting educational change isolated two perspectives from which to view institutional behavior. One approach emphasized adoption, the second implementation.

The Adoption Perspective

This school of thought concentrates on information development and utilization, formulating and specifying management principles which might facilitate the adoption of educational innovations.

The Rand study used the Havelock (1970) models of change

to outline four concepts of effecting educational innovation. Each model focuses to some extent on preadoptive behavior, the behavior of schools before a decision to adopt is made, and on the "insufficient rationality" thought to attend most planned change efforts (1975, Vol. 1, p. 6).

The problem-solving model assumes that user needs are paramount in selecting and adopting an innovative strategy. Innovation is the result of diagnosis and strategy selection. Demonstration of congruence between the innovative strategy and need is presumed to result in adoption.

The social interaction model focuses on patterns of diffusion and assumes that information in itself is an important source of the motivation to innovate. Exposure to information about a "better" practice is expected to lead to adoption or trial.

The research and development model is an "explicitly rational model that assumes a rational sequence of goal setting, planning, implementation, and evaluation" (Rand, 1975, Vol. 1, p. 7). Emphasis is given to needs assessment and the motivational aspects of information. "This model assumes that the 'consumer' is a more or less passive (but rational) receiver and implementer of ideas that seem to meet his needs" (Rand, 1975, Vol. 1, p. 7).

The linkage model, developed by Havelock to remedy the deficiencies of the three preceding models, deals with incentives, behavior, and goals of individual actors in the school

organization as they respond to proposals for planned change.

> "Havelock's linkage model begins to introduce notions of more realistic administration behavior" (e.g., Simon, 1965), but this model, like the other models, focuses almost exclusively on how people behave before an innovative strategy is implemented. Thus, in this model, too, the problem of affecting change is framed primarily in terms of bringing about the adoption of an innovation (Rand, 1975, Vol. 1, p. 7).

The Rand study contended that underlying these four concepts is a rational model of bureaucratic behavior that assumes managers are constantly seeking better practices, have reliable means for identifying superior procedures, and are eager and able to adopt proven innovations. The primary barriers to change in these models were seen as deficiencies in planning, communication, and dissemination as well as the quantity and quality of available information.

Authors of the Rand literature analysis believe that this rationalistic view of innovation does not explain the modal process of change in education institutions. The adoption perspective largely ignores the issue of implementation or institutional adaptation (1975, Vol. 1, p. 7). The adoption perspective also creates an over-emphasis on the properties of a particular innovation itself. As Mathew Miles pointed out in a paper on planned change and organization health, this over-emphasis on diffusion and integration within a system, "without a corresponding degree of interest in the dynamics and functioning of the receiving organization, presents the local system as a kind of unmodifiable ground" (In Carver and

Sergiovanni, 1969, p. 376). This view results in a lack of information and prevents learning much from successes and failures.

Public education institutions do not have selection mechanisms assumed by a rationalistic perspective. "Public schools do not have a market-type selection mechanism, or profit-maximizing incentives; the 'survival' of the institution is guaranteed by society" (1975, Vol. 1, p. 7). There is virtually no profit motive for being an innovator; education institutions which do not innovate are not likely to fail. Thus, members have few incentives to innovate when outcomes of change may be uncertain and involve risk.

Rand researchers concluded that "there is broad agreement that the following characteristics of the educational change process hold, even though they are not consistent with the rational view:

> Decisions to adopt or reject an innovation are seldom made on prima facie merits of the innovation (Miles, 1964; Coleman, 1972; Rein, 1970). The usual process of change is from the top down; pressure for change is typically initiated outside the local school rather than by assessments of school needs (Fullan, 1972; Sarason, 1971; Bennis, Benne, and Chin, 1969; Wirt and Kirst, 1972).

Thus, the special instance of the educational innovation suggests that many of the rationalistic assumptions about the role of information and the impetus to adopt innovations are not consistent with the reality of decision making in the local school setting (1975, Vol. 1, p. 7). Empirical and

theoretical evidence suggests that adoption is only one, and in most instances not the most important, hurdle in implementing change programs (Rand, 1975, Vol. 1, p. 8).

The Implementation Perspective

A second school of thought, according to Rand analyists, defines the problem of successful innovation in terms of implementation. These theorists have examined the reality of educational innovation from the perspective of an organizational model of institutional behavior. Researchers (e.g., Miles, 1964; Gross, Giacquinta, and Bernstein, 1971; Sarason, 1972; Smith and Keith, 1971; Carlson et al., 1971; Charters et al., 1973) have begun to explore the dynamics within the institution and the characteristics of innovative strategies that affect the success of planned change efforts (1975, Vol. 1, p. 8).

In almost all instances studied by Rand researchers, adoption was not an issue; "problems of implementation dominated the outcome and success of innovative projects. The innovations typically were initiated with a high level of enthusiasm and support...but, failed to achieve their objectives because of unanticipated and often prosaic difficulties and obstacles encountered during the course of project implementation" (1975, Vol. 1, p. 9).

This somewhat different formulation of the essential problem of planned change, according to Rand authors, has led to the identification of a different set of dimensions

which may be important for understanding successful change in education. The role of knowledge and communication in the outcome of innovation is seen as less important than and dependent on:

> the role of principal actors;
> the institutional structure of incentives and constraints;
> the institutional policy setting; and,
> characteristics of the innovation (1975, Vol. 1, pp. 8-9).

Rand authors proposed that the lack of congruence between rationalistic models of change, such as those synthesized by Havelock, and what other researchers and theorists, especially Mathew Miles, described to be the dominant problem of innovation can be attributed to their attempts to structure the problem of change inductively or deductively. They point to researchers such as Sarason, Smith and Keith, Carters et al., and Gross et al., who attempted to examine dynamic reality first. Whereas, principles of knowledge utilization and management have guided the traditions and assumptions of diffusion literature--providing a framework with limited application to education (1975, Vol. 1, p. 9).

The diffusion literature frames the central problem of innovation in terms of adoption and analyzes the differential rates of adoption. "Underlying this view is the assumption that an 'innovation' is a relatively stable 'technology' or 'product,' and that, once adopted, the innovation will generate its own momentum and proceed more or less mechanistically through predictable stages of implementation, which will end

with a decision to continue or terminate" (Rand, Vol. 1, p. 9). Rand authors point out that there are important practical differences between a "technology" and an educational innovation. A technology or a product can be considered as possessing the following attributes:

> clarity and specificity of goals;
> specificity of treatment;
> a clear relationship between treatment and outcome;
> passive user involvement;
> a high level of certainty of outcome; and,
> a unitary adopter (1975, Vol. 1, p. 9).

According to Gruber and Marquis, because of these characteristics, a technology or product is usually invariate in its implementation and in its outcomes from one context to another (In Rand, 1975, Vol. 1, p. 9).

Innovative strategies in education tend not to be invariate, but rather, evolutionary. According to Mathew Miles, "The installation of an innovation in a system is not a mechanical process, but a developmental one in which both the innovation and the accepting system are altered" (Miles, p. 647 in Rand, 1975, Vol. 1, p. 9). According to the Rand study education innovations may be said to possess the following general attributes:

> Treatments are incompletely specified.
> Outcomes are uncertain.
> Active user involvement is required.
> The adopter is not unitary but a policy system or policy units.
> The relationship of project treatment to overall institutional goals is unclear or unspecified.

The authors concluded that because of the nature of the

educational innovation, a decision to adopt is only the beginning of a process that exhibits a high degree of instability and variability (Vol. 1, p. 9-10). They concluded that the process of implementation is essentially a two-way process of mutual adaptation. Implementation is, therefore, an organizational process whose end product will be an altered institutional arrangement and an innovative strategy modified to suit that arrangement (Rand, 1975, Vol. 1, p. 10).

The Rand analysis of innovation concluded that if "different 'changes' of innovative plans can be seen as the product of common institutional structures and processes, then questions of implementation and patterns of institutional response to change become central to identifying policy levers than can affect change as well as to understanding the process of planned change in education" (1975, Vol. 1, p. 11).

The Change Process--The Rand Model

The Rand explanatory model of the change process proceeds through three distinct stages--initiation, implementation, and incorporation--as it develops from an innovative plan to an operational reality. This model suggests that in each of these stages there are certain typical processes and decisions by principal actors. The institutional setting heavily influences the way these processes work (1975, Vol. 4, p. 9).

Initiation Phase

Four factors interact during the initiation stage: a "good idea," the availability of resources, local needs and the

incentives of individual actors. Interaction among these factors in a particular setting was characterized by two ideal types, opportunism and problem solving (See Vol. 3, sec. 2). "The contrasting motivations that characterized these different processes continued to play a pervasive role in implementation and thus in the outcomes of the innovations" (Vol. 4, p. 9).

Opportunistic projects seemed to be a response to available funds and were characterized by a lack of interest and commitment on the part of participants. They tended to rely more heavily on outside developers and consultants than did problem-solving projects (Vol. 3, p. 22). The problem-solving motive emerged primarily in response to locally identified needs and was associated with strong commitment (Vol. 4, p. 9). The study observed another mode of project initiation characterized as problem solving in some sense. The important difference was that the resulting solutions were identified by individuals and groups other than local education personnel. School personnel did not evidence similar commitment and support for these projects (Vol. 3, p. 20).

The search for alternatives traditionally assumed by change agents to be characteristic of problem solving did not occur (Vol. 4, p. 9). Designers of projects used information or treatments already known to local personnel. Rand evidence supported the idea that local administrators did not search for treatments or technologies because they intuitively felt

that success and suitability of an innovation depended primarily on local conditions.

Initiation, as the first stage of innovation, includes identification, design, and adoption of a strategy. It includes generation of support for a project, identification of the objectives and strategies comprising the design and focus, preparation of the proposal, and operational planning and programming (Vol. 3, p. 18).

Ideas for methods and strategies appeared to come from three principal sources: individuals or departments within the district (often those designed to identify and secure outside funds); local advocates, individual or groups essentially on their own; and, people or units outside the district. "The source of the idea and its subsequent development appeared to have an important impact on implementation outcomes" (Vol. 3, p. 22). The designated work group was the most common means used to identify and develop projects. A group working in isolation appeared to face greater difficulties implementing a project than one which worked closely with a representative sample of district staff who would be involved with the project.

Rand researchers reported that no matter how good the quality of the treatment finally proposed, the plan was likely to underestimate the problem of winning staff acceptance (Vol. 3, p. 22). Early involvement of implementors led to an important sense of "belonging" and a belief on their part that project objectives were important to them. Communication

skills, more than substansive skills, were extremely important for the project leader (Vol. 3, p. 23). The need for communications skills was reported also in a two-year study by Jean Widmer, "What Makes Innovation Work in Massachusetts" for the State Department of Education (1975, p. 107).

Committed initiators often promoted zeal and dedication in the project staff. Staff enthusiasm contributed a great deal to helping projects through problems and compensated for the extra work required (Vol. 3, p. 23). Activities during the initiation phase affected morale, perceptions of success, and willingness to make extra efforts (Vol. 4, p. xx). The Widmer study of Title III projects in Massachusetts reported that building a network of early and wide support was a critical factor in adoption (1975, p. 111). Local staff members tended to distrust outside experts and had little patience for complex project rationales. Outside consultants, armed with strong administrative support tended to fare much better in overcoming staff resentment (Rand, 1975, Vol. 3, p. 24).

The second phase of initiation consists of preparing the proposal for funding or formal acceptance. This phase was primarily an administrative task, often assigned to individuals with "sales" experience. Federal programs which demanded comprehensive, well-thought-out plans tended to report fewer problems with implementation in spite of their substantial scale. Proposal development reflecting input from many

segments of the school community also led to fewer implementation difficulties (Vol. 2, p. 45).

The same people involved in the idea-generation phase usually carried out the formal planning activities for operationalizing the project. Early planning centered on two major issues: definition of treatment and identification of target groups. The "problem-solving" projects devoted more attention to developing and integrating a clear statement of goals, often incorporating the views of the regular staff, and providing the rationale for selecting treatments (Vol. 3, p. 25).

Commitment Critical

The Rand data essentially supported their conception of the initiation phase. Decisions and considerations central in the support stage were essentially political; "cost and benefit" considerations at this stage were primarily institutional and personal, not budgetary (Vol. 1, p. 17). In addition to the educational value of a proposed innovation, decision makers had to consider the expected response of important interest groups, as well as short and long-term benefits for the system. Rand assumptions that information on new practices was a necessary but not sufficient antecedent to the adoption of a particular innovation were borne out by the data. Without a high level of institutional support for an innovative idea, it was unlikely that the change process would get underway, despite the prima facie merits of the

proposed change. "Clearly, commitments made in the support stage affect what happens when project implementation begins" (Vol. 1, p. 17).

A recent HEW Office of Education study of 75 New York school systems which had implemented planning programs (PPBS, MBO, etc.) supported the Rand study on the critical aspect of establishing commitment prior to implementation. Samuel Goldman and William Moynihan (1974) concluded that initiation and diffusion were two critical variables regardless of the planning model used. Their data revealed that the chief executive held the key to the initiation of change. Without his/her involvement, entry into the system, or achieving outcomes, typically did not take place. The research study concluded that four major process variables were related to effective diffusion (implementation in the system):

> gaining commitment to the general notion of the need for planning and change;
>
> gaining commitment to the specific planning model adopted;
>
> dealing with interface issues (resolving conflicts among subgroups and departments); and,
>
> communications and coordination problems (1974, p. 12-14).

A study in England by Garth N. Jones of nearly 200 cases of organizational change, attempting to classify elements in change and to learn how these elements could be operationalized, concluded that the most critical dimension was the receptivity of the client system to change. If the receptivity

was high, then successful change usually resulted. Receptivity of the client system to a proposed change profoundly influenced perception of the level of the change agent's performance. Poor performance was usually associated with highly unreceptive organizations and excellent performance with highly receptive organizations (1969, p. 109).

Jones hypothesized that the critical facets of organizational change included mutual goal-setting by parties in the change, some type of power relationships, and rational planning and administrative support (1969, p. 110). The evidence of four large research projects (Goldman and Moynihan, 1974; Jones, 1969; Rand, 1975; Widmer, 1975) suggest that developing commitment and receptivity of individual actors for a proposed change is a critical strategy.

Implementation Phase

Implementation is an organizational process that implies interactions between the project and its setting. The Rand analysis described three types of interactions, defined by the extent to which the project was adapted to the institution or vice versa, that characterized the implementation process:

> mutual adaptation--adaptation of both project design and the institutional setting;
>
> non-implementation--no adaptation on the part of either the project or the setting; and,
>
> cooptation--project adaptation to the indifference and resistance on the part of project participants, but no change by the participants themselves (Vol. 4, p. 10).

They hypothesized a fourth type of implementation process, one where behavior and practices of the staff would change as a result of the project, but the project itself would not be modified. Technological learning, as they called the process, was not observed. The type of implementation process for any particular project depended upon three considerations: the motivations and circumstances involved in the initiation stage; the substance and scope of the proposed change; and, the implementation strategy (Vol. 4, p. 10-11).

Twenty nine case studies by Rand researchers illustrated the nature of the process and offered insights into how different projects changed. The adaptations they made were often strikingly similar. Most projects made many or all of these changes:

> reduction or modification of project goals;
> amendment or simplification of project treatment;
> reductions in the amount of behavioral change expected from participants;
> reduction of expectations about the impact of the project;
> changed organizational patterns; or,
> learning new skills or attitudes.

The type and extent of mutual adaptation possible depended on the project design, particularly on how complex and specific the methods and goals were. The most extensive adaptation occurred in projects that were highly complex, relatively unspecified in terms of treatment, and which required a significant amount of change on the part of the implementors (Vol. 3, p. 29).

The Jones research referred to earlier stated a similar conclusion which he reported as his most surprising finding.

> The greater the magnitude of the change alteration resulted in an even greater increase in organizational effectiveness. A major change alteration should not be a serious deterring factor, but rather the quality of the overall receptivity of the client system to change should be regarded as the most important consideration as to whether or not the change should be undertaken (p. 109).

The consequences for implementation, in addition to the basic considerations (circumstances during the initiation stage, substance and scope of the project, and implementation strategy), often depended largely on strategies for dealing with both anticipated and unanticipated problems (Vol. 3, p. 31).

Rand researchers identified three implicit conceptions about the process of implementation which led to somewhat different implementation strategies. A standard notion was a more or less automatic "self-winding" process where plans would be implemented as laid out; achievement or desired outcomes would depend on adopting the appropriate technology. This notion of implementation was labelled the "package approach" to change.

A second and more sophisticated concept of implementing change was called the rational planning approach. It attempted to anticipate problems during the process. This notion assumed that careful and comprehensive planning could foresee most impending issues.

The third concept forwarded by Rand researchers was viewed as a mutual adaptation process...where a plan would have to adapt to meet the requirements of implementation. Projects designed with the notion that problems or contingencies would arise fared better; thus projects which scheduled frequent staff meetings and the availability of "on-the-spot" resource personnel increased the probability of mutual adaptation (Vol. 3, p. 31).

Opportunistic projects tended to be either coopted during implementation, or undergo pro forma implementation. One example cited involved a career education project where the addition of peripheral enrichment materials had no effect on the standard curriculum, changing neither ideas nor behavior. This was characteristic of most add-on kinds of projects (Vol. 1, p. 10).

Problem-solving projects which were coopted or non-implemented tended to have different characteristics. They broke down because they could not cope with unanticipated requirements, or participants had disparate perceptions of needs and goals. In all cases observed, mutual adaptation occurred only if the project was preceded by attitudes and commitments associated with problem solving. "Thus, a problem-solving orientation may be a necessary condition for mutual adaptation" (Vol. 4, p. 11).

In summary, according to the Rand conclusions:

> The extent of mutual adaptation which might take place during the implementation phase is largely

> determined by the substansive design of an innovation and the motivation of principal actors. But, we found that how adaptation occurs, why it occurs, why it occurs as it does, and the consequences of various types were primarily related to attributes of the innovative strategy and the institutional setting (Rand, 1975, Vol. 3, p. 31).

Change Strategies

The Rand analysis of implementation outlined the attributes of innovative strategies related to successful projects they observed. Training was more important for complex projects and less important in highly specified or primarily technology-based projects. It did not appear to make much difference whether pre-service or in-service training was the primary vehicle for introducing a staff to new project strategies, except for complex organization change projects. The absence of concrete pre-service training in these cases appeared to retard implementation and to create more serious problems (Vol. 3, p. 32).

Research indicated that the benefits of training were conditioned by the content of the training program and by the characteristics of the training staff. "In general, the more training the better" (Vol. 3, p. 33). Frequent and regular meetings appeared to have a high payoff in terms of reducing friction within the staff, raising staff morale, and establishing a sense of project purpose and cohesiveness.

The creation of materials germane to a particular locale also appeared to be an important attribute of the innovative

strategy. The study concluded that the significance of producing one's own project materials lay in the activity of development itself rather than in the final product. (Vol. 3, p. 36).

Volunteer participation appeared to eliminate much of the resistance to change generally expected in innovative efforts, and to produce a capable cadre of project participants. Staff members identified a number of reasons for working hard to implement strategies, most often intangible professional incentives such as: a chance to learn a new skill; an opportunity to put into practice some of their own ideas; or, a possible solution to a perceived need. Money and other tangible rewards appeared to be an effective gesture of appreciation, but not effective in stimulating interest in a project where the interest did not already exist. Nor did money induce staff members to acquire new skills if their own interest or concerns did not lead them to see the new learning as important (Vol. 3, p. 37).

Innovative projects which included secondary schools were more difficult to implement. The Rand data indicated that not only did faculty members tend to view themselves as subject specialists not in need of new skills and attitudes, but the students themselves appeared to be less amenable to change (Vol. 3, p. 38).

Because change is essentially a disruptive process, implementation was a trying time for participants. Negative

or indifferent attitudes from non-participants eroded staff morale and constituted a pressure for the project leader to give up if he/she felt isolated and unappreciated. The existence of a "critical mass" of participants appeared to generate a norm for change in a school organization, a norm not likely to be promoted by an isolated individual working to implement a change (Vol. 3, p. 38).

In summary, projects that were well-implemented or had the smoothest implementation were characterized by the following attributes:

a strong training component;
practical "how-to-do-it" workshops;
local expertise and technical assistance;
frequent, regular staff meetings;
local materials development;
voluntary, highly motivated participants;
an elementary school focus; and,
a "critical mass" of participants.

Rand authors noted the omission from this list of the mode of project decision making and the pace of prescribed project activities. "The currently popular ideology of planned change favors a 'democratic' style of project management and decision making and also believes that gradual implementation is more effective than a 'blitz' style of introducing new practices and attitudes" (Vol. 3, p. 39). Empirical evidence did not support the "democratic" as opposed to the "authoritarian" leadership styles. The Widmer study of innovative projects supported this finding. Participants preferred a leader who was both supportive and directive (1975, p. 104).

Rand authors reported that, while not affecting the success of implementation, the human costs appeared to be high in projects attempting to install new practices via blitzkrieg. These projects experienced low morale, staff resentment, and even threats of mutiny in the first two years of project operation.

Evidence suggested, according to Rand authors, that democracy and gradualism, as opposed to authoritative blitz, may well be determined by the situation. In organizations where there was little interest in educational change, "forcing innovation may well have been the most effective way to bring about significant change" (Vol. 3, pp. 39-40).

The Setting

The attributes of the institutional setting which influenced the implementation process related to the organizational climate of the projects, the extent to which the organization supported change efforts generally, and a change project specifically (Rand, 1975, Vol. 3, p. 44).

Administrative support at all levels for a change project influenced the course of implementation. Support and commitment to the project by top administrators often seemed vital during the rough first year of a project. The principal's critical role as a gatekeeper of change was emphasized in the report, though it was difficult to identify just how he/she significantly enhanced project success. (Vol. 3, p. 41). It appeared difficult to initiate or sustain change if the principal did

not change his/her perceptions of "goodness" or provide support for the change. Administrative support was most important in highly complex projects which attempted to implement substantial change in existing practices. Few projects survived administrative indifference or opposition.

Prior experience with innovation appeared to affect the course of change agent projects. Systems considered innovative generally displayed greater tolerance for failure and uncertain start-up (Rand, 1975, Vol. 3, pp. 40-42; see also Vol. 2 and the Widmer (1975) study). There appeared to exist an "innundation threshold" where staff members were fed up with all the associated upset and extra work caused by implementing a change. "In general, the problems caused by competing innovations were less severe in the more complex projects..." (Vol. 3, p. 43).

Unanticipated occurences were always disruptive, "but, projects which had district support, flexible personnel, and good communications with their staff seemed to be able to meet these disruptions without great cost to project effectiveness" (Vol. 3, p. 44).

In summary, the following attributes of the institutional setting related to organizational climate influenced the implementation of projects:

degreee of administrative support and commitment;
past experience with the particular innovation;
high propensity to innovate;
administrative flexibility and adaptability; and,
good communications.

Incorporation Phase

This final stage of the change process begins when a project becomes part of the routinized behavior of the system. The Rand model suggested that this stage was similar to the initiation stage in the sense that support must be generated to institutionalize the project. However, they pointed out several major differences in the two stages.

> Due to adaptation, the final project is likely to be different from its initial conceptions.
>
> Because actors make decisions during the life of the project, a set of constituencies is created by subtle psychological processes of cognitive dissonance and less subtle political calculations of who gets what and who loses what.
>
> As the project moves from an experimental status to a legitimate permanent status, it gathers an organizational momentum on one hand and faces detractors threatened by dislocations on the other hand.
>
> New decision points relative to reallocation of personnel, redistribution of resources, and redesign of curriculum become established (Vol. 1, p. 17).

Cost/benefit questions again became central. Vested interests, established routines, and marginal utilities became important. "The prima facia merits of the success of an innovative project will be only one factor considered" (Vol. 1, p. 17).

Despite the differing objectives of projects examined by the Rand study, clear and consistent patterns of continuation appeared to exist. Projects which attempted to replace current practices were most likely to be continued than were projects which represented "add-on's" to existing strategies

(Vol. 3, p. 49). Almost all projects which replaced current practices included training activities; almost all the "add-on's" were technologies or products.

Projects that succeeded to any degree included training or staff development activities almost without exception. Training tied to the implementation of new practices appeared more effective than staff development efforts to enrich understanding or increase repertoires of techniques (Vol. 3, p. 50).

A second pattern of continuation concerned the relationship between the eventual continuation and initial support. Decisions about project continuation could be predicted from decisions or motivations to initiate the project. Projects "initiated with strong district support and which were also seen as a solution to a particular problem were incorporated almost without exception, albeit at varying levels. And, without exception, those projects which represented an opportunistic response to available dollars and which received little or no support from district administrators withered away, even where project objectives were met" (Vol. 3, p. 50).

Evidence suggested that systems probably would have undertaken problem-solving projects without additional federal funds. Federal money was not used to test new ideas or experiment with innovative strategies. "An almost axiomatic lesson that emerged from our field experience was that people change more easily when the change helps them solve problems that are real to them" (Vol. 3, p. 51).

Data provided evidence that superintendents weighed four general concerns in reaching decisions about continuation:

> the project's "success" during implementation;
> the centrality or importance of educational needs served;
> the resources required; and,
> the organizational-political forces inhibiting or promoting innovation (Vol. 4, p. 12).

The project's perceived success appeared tied to the initial motivation for the project rather than to evaluation data. Cost appeared to be tied more to the project's priority than to any dollar expenditure required. Local involvement and a sense of ownership appeared to be important to both implementation and continuation. Factors facilitating incorporation included:

<u>characteristics of the innovation</u>

> congruence with formal and informal system goals and priorities.
> a dominant staff training component.
> a focus on project activities that were intended to replace (rather than add to) current practice.
> locally initiated project design and materials development.

<u>characteristics of the institutional setting</u>

> a high level of commitment and support on the part of administrators.
> active consumer demand.

<u>external factors</u>

> SEA (state education agency) or federal priorities consistent with project goals and treatment.

The following factors appeared to inhibit incorporation:

<u>characteristics of the innovation</u>

> cost.
> targeted or categorical program goals or treatments.
> add-on's to current practices.

externally developed materials; heavy reliance on outsiders for technical assistance in program design or implementation.
lack of congruence of project objectives with needs, priorities, or values of the organization.
special staffing requirements.

characteristics of the institutional setting

low level of administrative commitment to the project.
high level of staff or administrative turnover.
absence of consumer demand (Vol. 3, pp. 52-53).

Each stage in the process of change has been described in terms of the interplay between characteristics of the project and its setting. Implementation represents an intermediate causal link in the more inclusive process of innovation. The reality of educational change appears quite different from the rational adoption perspective often assumed.

Management-By-Objectives

Management-By-Objectives represents a process which programs careful consideration of goals, alternatives, and means along with individual and organizational effectiveness. As such, it basically duplicates a normative decision-making cycle, the core process of administration (See Catanese, 1970, pp. 302-318, Owens, 1970, p. 90).

Armed with information about where the organization is and where it wants to go, each manager sets out in a key results analysis his/her own ideas for improving the effectiveness of the organization and him/herself. Objectives with control and interdependence requirements are discussed between the supervisor and subordinate. These agreed-upon measures then provide a

standard for evaluating the degree of achievement for the organization and the individual. Future needs and opportunities for both are identified. The cyclic process continues with periodic evaluation and modification of objectives for both the organization and the individual. (The process is diagrammed on the following page.)

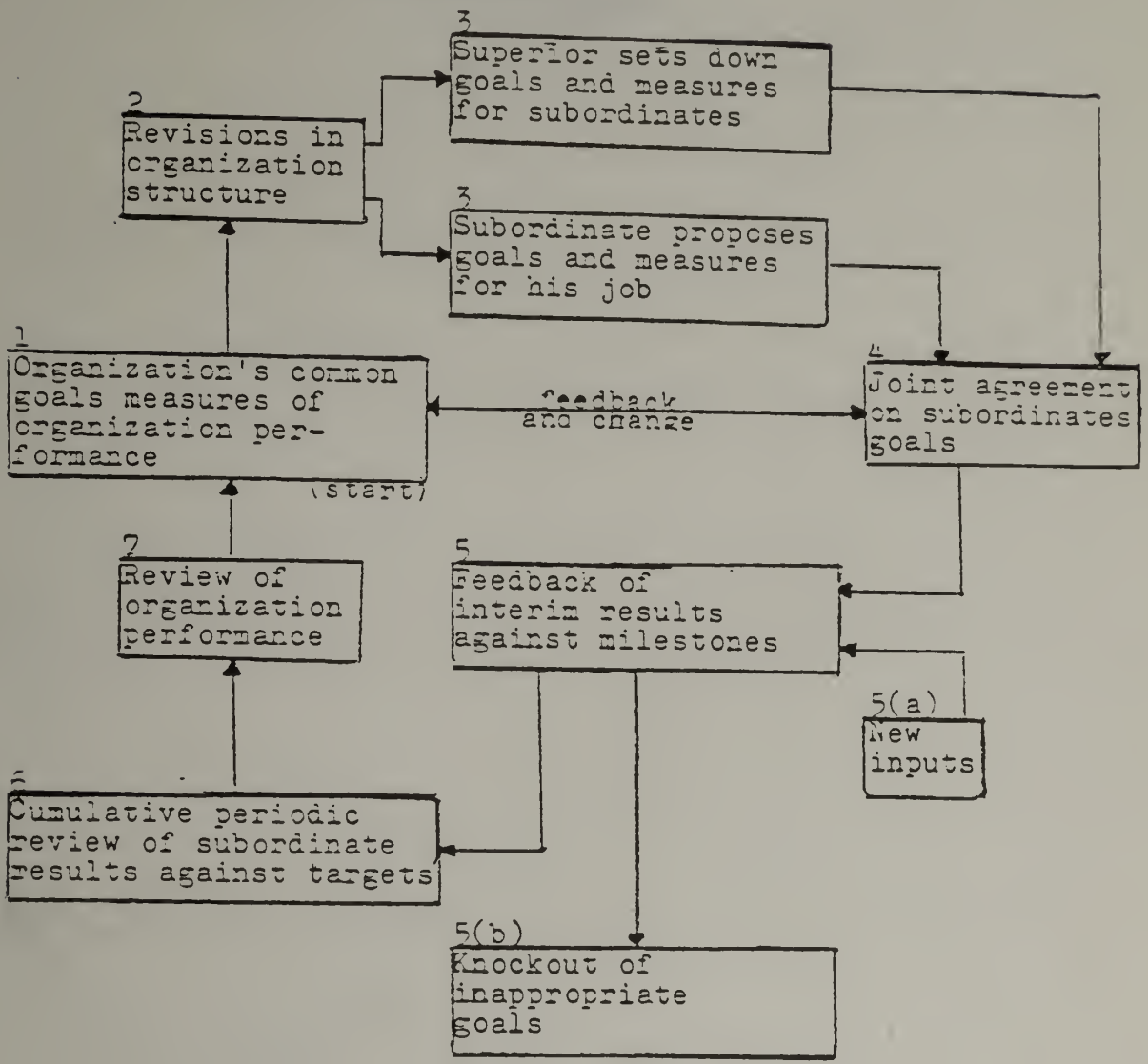
Though the concept underlying MBO as an interface mechanism between the organization and the individual has remained fundamental, approaches with specialized foci have proliferated since Peter Drucker (1954) first emphasized that organizations need to establish explicit objectives. Drucker proposed that objectives could serve as a unifying vehicle for a systems approach to management. Initially, however, emphasis was on improving performance of the manager by providing him/her with a set of measurable objectives towards which he/she could strive (Drucker, 1975, p. 121).

During the 60's MBO evolved from a special-purpose technique for performance evaluation into a system in which objectives and results served as a focus for the management process. George Odiorne led the development of MBO as a collaborative decision-making system when he described Management-By-Objectives

> as a process whereby the superior and subordiante managers of an organization jointly identify its common goals, define each individual's major areas of responsibility in terms of results expected of him, and use these measures as guides in operating the unit and assessing the contributions of each manager (1965, p. 55-56).

FIGURE 1

THE MANAGEMENT BY OBJECTIVES CYCLE



From: Odiorne, George S. Management by Objectives, Pitman Publishing Corporation, New York, N.Y. 1965, p. 78

MBO explicitly attempted to link individual planning and development with the organization's planning and development.

Since then applications of MBO programs have served numerous related purposes, sometimes moving away from explicitly integrating individual and organizational goals. They have stressed programming the decision-making cycle in various phases of the management process. Or, they have used the MBO process to delineate or to change roles and relationships of individuals within the organization. Edgar Huse, a long-time MBO consultant and researcher, maintained that part of the confusion arising with numerous definitions and uses of MBO came from its origin in two different stems--organizational and developmental. Huse described the organizational focus as arising from Drucker and Odiorne. He and others contended that the development stem, which focuses on the individual and organizational change, emanated from the work of McGregor (1975, p. 183-185).

Carroll and Tosi provided evidence for the confusion caused by numerous definitions and uses of MBO programs when they surveyed 87 organizations asking managers their perceptions of the chief use of the MBO process (1973, p. 23). The percentage of responses for different uses of the process were:

Linking performance and evaluation	35%
Aiding manager in planning	25%
Increasing subordinate/boss interaction and feedback	23%
Motivating managers	23%
Linking organizational and departmental objectives	17%

Developing management potential	17%
Helping managers better understand the nature of their jobs	13%
Letting management know what is going on at lower levels	8%
A management club for higher performance	5%
No mention	15%

Approaches from the so-called organizational stem use MBO basically to develop more rational decision making during one or more phases of management. As defined by the Business Management Council, management comprises three phases: establishing objectives or planning, directing the attainment of objectives, and measuring results (McConkey, 1975, p. 22). During the early history of MBO emphasis was on the evaluation phase of management.

While acknowledging a wide applicability for managing by objectives, some practitioners have focused on the planning phase. McConkey considered MBO useful for initiating a formal planning system. According to him, the process of setting goals, assessing the environment, and reviewing alternatives gets the first stage of the planning cycle in place (1975, p. 27). Others considered MBO as a planning system in itself, like PPBS (See Goldman and Moynihan, 1974, p. 8).

David Hussey (1974) considered Management-By-Objectives as a formal method for implementing plans, thereby focusing on the directing phase of management. For others, like Leavitt et al. (1973), the process is concerned with integrating the phases of management, with perhaps more emphasis on the directing/implementing phase. They described MBO as a

technique concerned with a kind of middle range of objectives--lying somewhere between immediate tasks and long-term goals. Realistic short-term objectives, coordinated into a broad scheme and coupled with people involved in the objectives-setting process, enable managers to know what they are trying to accomplish. The measurement of progress and the evaluation of performance become easier. The autonomy of individual members is maintained because progress toward objectives, not personal styles of behavior, can be evaluated. "Organizational members will become more selective in their response to multi-pressures because they know where they want to go" (Leavitt, Dill, Eyring, 1973, p. 21).

As an organizational or individual development technique, other authors have used MBO essentially to better delineate management roles and working relationships, or to change them. Any change in roles or relationships was generally intended to move the manager towards more collaborative decision making. Douglas Basil and Curtis Cook discussed MBO as useful for the transition from a role-oriented to a task-oriented organization where opportunity and achievement are emphasized more than roles and authority (1974, p. 185). According to them MBO provides the correct direction for future rewards systems and realistic motivation in organizations. "MBO incorporates the upper levels of Maslow's hierarchy of needs, McGregor's Theory Y, and Herzberg's exposure of the lack of motivation in hygienic-extrinsic factors" (Basil and Cook, 1974, p. 201).

Using the term "target-setting," Mathew Miles referred to MBO as an intervention aimed at improving the organizational health of schools because it focuses on the working relationships between the superior and subordinate (In Carver and Sergiovanni, 1969, p. 386-387). Huse discussed MBO as an approach for reducing managerial stress because it increases communications and shared perceptions between the manager and his/her subordinates. As such, the process helps achieve a better fit between organizational and personal goals (1975, p. 183). Huse also contended that "MBO can facilitate the personal growth and development of the individual, as well as help accomplish organizational objectives" (1975, p. 179).

Management-By-Objectives programs have been increasingly implemented in non-profit organizations as pressures for accountability and effective use of limited resources have increased. Hospitals, churches, the Department of Health, Education and Welfare, and now school systems and colleges are using various degrees of managing-by-objectives (McConkey, 1975, p. 32). Fred Schwarz, an MBO specialist from the University of Wisconsin School of Business Administration pointed out that while increasing numbers of college administrators are exploring more effective management systems, only two institutions had fully operational MBO systems in 1975 (p. 42, 52). The federally funded National Laboratory for Higher Education has conducted a major study of MBO in higher education in an effort to provide a rationale and a

plan for aiding its dissemination (1975). A massive study for the Massachusetts State Department of Education on school effectiveness and efficiency stressed the need for better management systems (1974, pp.13-14).

Public sector institutions are recognizing that as organizations they need a system which helps program effective decision making. Effective decision making is as dependent upon explicit objectives as it is a rational process. Human service organizations often have a multiplicity of overlapping goals, difficult to state in measurable terms. And, the danger always exists that explicit, measurable objectives may be the trivial ones.

As important, public institutions are recognizing that they must take into consideration the need for broadly based participation in setting organizational goals and operational objectives. Jong Jun, during a national symposium on MBO, pointed out that the initial impetus for adopting MBO may have stemmed from an increasing need for results. However, the long-term impact of MBO on public management may be that it will cause executives to not only take into account their view of the organizational mission but the broader view of the organization's purpose and functions within its social context. If MBO is properly used, it "will reflect far more of value than simple gains in administrative control, efficiency, and production. Implicit in MBO is the devolution of authority and power to successively lower levels of

the hierarchy..." (Jun, 1976, p. 2). Jun goes on to point out that MBO can be an effective means of initiating the new organizational models evolving around the "need to cope with turbulence, behavioral problems, and problem-solving in increasingly complex, unstable, and technical arenas" (1976, p. 3).

According to Don Hellriegel and John Slocum, MBO serves two functions, as an "approach to change and management" (1976, p. 413). They discussed MBO as an approach to planned change, citing a study by Ivancevich (1974) as an illustration of possible change in performance due to the implementation of an MBO program (1976, p. 424).

Used as a developmental device, MBO combined the leading principles of McGregor's Theory Y and Raymond Miles' human resources model of management (Miles, R., 1975, pp. 34-35, Owens, 1970, p. 25). Both are based on these assumptions about human behavior:

> Work is not inherently distasteful. People want to contribute to meaningful goals which they have helped to establish.
>
> Most people will exercise self-direction and self-control toward an organization's goals if they are committed to them.
>
> Most people can exercise far more creative, responsible self-direction and self-control than their present jobs demand.

In either case, Management-By-Objectives programs a rational decision-making cycle, whether management intends to improve existing modes of decision making or desires to

change that mode. The process programs both the individual and the organization through a careful consideration of needs, goals, alternatives, means, and measures of success. Whether focusing on performance evaluation, on integrating individual and organizational goals, various aspects of the management cycle, or on changing roles and relationships, MBO aids decision-making.

Explicit objectives are fundamental to a well-developed decision-making cycle both for the organization and for an individual manager participating in an MBO program (See Catanese, 1970, pp. 303-318; Owens, 1970, p. 90 for a discussion of a rational decision-making process). Michael and Jones summarized several benefits of explicit organizational objectives. These same benefits are often cited in discussions of the advantages of MBO (See McConkey, 1975; Huse, 1975; Hellriegel and Slocum, 1976):

> They facilitate coordination of individual and organizational goals. Organizational targets create opportunities for individuals to make contributions in fulfilling organization goals. They can act as motivators for individual objectives.
>
> They reduce supervisory requirements and facilitate the voluntary coordination of members of the organization. Objectives are directional guidelines which can become impersonal substitutes for supervision to some extent. The individual may feel fewer inter-personal constraints, giving him a sense of autonomy.
>
> They facilitate delegation of power to decision making. Decentralization can be more readily carried out. Objectives represent decision-making guidelines for lower-level administrators.

> They give direction to the planning process. Objectives can help unify planning efforts of various departments and divisions by assuring that they seek common, organizational ends.
>
> They serve as an evaluation yardstick for measuring how well both the individual and the organization have met their goals (1973, pp. 71-72).

The prevailing managerial value system will play a crucial role in determining whether objectives are set by higher management and handed down or whether an interaction process takes place between supervisors and staff members in the goal-setting process (Hellriegel and Slocum, 1976, p. 413). The dominant managerial role model in the organization...traditional, human relations, or human resources, will determine which MBO approach will be implemented. An organization's value system will determine whether employees are provided objectives which are then used to assess their performance, whether they are consulted before goals are decided, or whether they help make some determination of organizational and individual goals.

As developed by R. Miles in Theories of Management: Implications for Organizational Behavior and Development, each managerial role model begins with a set of assumptions about human behaviors, attitudes, and motivations. (Note the accompanying chart.) These assumptions prescribe appropriate managerial actions and predict expectations for themselves and their workers.

The traditional model values authority and position.

FIGURE 2

MANAGERS' THEORIES OF MANAGEMENT

Traditional model	Human relations model	Human resources model
Assumptions	Assumptions	Assumptions
1. Work is inherently distasteful to most people	1. People want to feel useful and important	1. Work is not inherently distasteful. People want to contribute to meaningful goals which they have helped establish
2. What workers do is less important than what they earn for doing it	2. People desire to belong and to be recognized as individuals	2. Most people can exercise far more creative responsible self-direction and self-control than their present jobs demand
3. Few want or can handle work which requires creativity, self-direction, or self-control	3. These needs are more important than money in motivating people to work	
Policies	Policies	Policies
1. The manager's basic task is to closely supervise and control his subordinates	1. The manager's basic task is to make each worker feel useful and important	1. The manager's basic task is to make use of his "untapped" human resources
2. He must break tasks down into simple repetitive, easily learned operations	2. He should keep his subordinates informed and listen to their objections to his plans	2. He must create an environment in which all members may contribute to the limits of their ability
3. He must establish detailed work routines and procedures and enforce these firmly but fairly	3. The manager should allow his subordinates to exercise some self-direction and self-control on routine matters	3. He must encourage full participation on important matters, continually broadening subordinate self-direction and control
Expectations	Expectations	Expectations
1. People can tolerate work if the pay is decent and the boss is fair	1. Sharing information with subordinates and involving them in routine decisions will satisfy their basic needs to belong and to feel important	1. Expanding subordinate influence, self-direction, and self-control will lead to direct improvements in operating efficiency
2. If tasks are simple enough and people are closely controlled, they will produce up to standard	2. Satisfying these needs will improve morale and reduce resistance to formal authority—subordinates will "willingly cooperate"	2. Work satisfaction may improve as a "by-product" of subordinates making full use of resources

From: Miles, Raymond E. Theories of Management: Implications for Organizational Behavior and Development, McGraw Hill Book Co., New York, New York, 1975, p.35.

Classical economists and Social Darwinists saw Man as drawn from a life of indolence to work for enough money to sustain his basic needs. Workers were supervised by those whose superior capabilities entitled them to the exercise of power. Task specialization was considered the prime building block of productive efficiency. With the traditional model the manager is basically a controller with a responsibility for meeting the needs of the technical system. The system's goals are known and relatively stable; tasks and procedures can be rationally designed and delegated.

The human relations model, according to R. Miles, "merely incorporates and extends the traditional model" (1975, p. 39). Facilitating concepts emerged as problems arose in applying the traditional model; traditional tenets were not challenged. Management's responding with greater warmth and consideration to employees' needs for acceptance and status was designed to decrease resistance to authority and to increase motivation. The Hawthorne experiments of the late twenties gave managers evidence that "parts of the machines were people" (Miles, R., 1975, p. 41).

This model does recognize social and egoistic needs above fair treatment and equitable pay. Praising performance and consulting members on routine issues helps satisfy the need for recognition, acceptance and status. Although her samples were business-oriented, Doris Cook (1968) substantiated that favorable attitudes and positive results were found to be

directly related to frequency of feedback on performance (N.L.H.E., 1975, p. 14). While the manager is still the controller, he/she is expected to take preventive steps to keep people cooperative. Although goals of the technical system are viewed as stable and predictable, the value of training and the costs of replacing human components are recognized.

Miles' human resources model is based on the upper levels of Maslow's hierarchy of needs. Supporters of this model of management argue that organizations must go beyond simply providing fair pay and treatment and trying to make members feel important. They must design and structure tasks so workers can have the opportunities to develop and expand their abilities. The main thrust of assumptions underlying the human resources model is an emphasis on the abundance rather than the scarcity of human capabilities. The manager's role is not so much one of controlling organization members as it is facilitating their performance.

According to Miles, when organization members participate in decisions related to their work, and they exercise self-direction and self-control in carrying out their tasks, performance improves. The manager's facilitative-developmental role carries a responsibility for all barriers to performance. The changed role does not obviate the controller/preventive maintenance aspects of the role. But, it does maximize his/her obligation to remove restrictions to and to develop new

investment opportunities for the full utilization of human resources. The manager works in a continuing process of goal setting for the changing needs of the organization. With his/her subordinates he/she defines unit objectives and procedures and evaluates standards. Environmental demands are expected to change goals. Member capabilities are expected to grow with time (Miles, R., 1975, pp. 35-48).

"While there is not uniformity of agreement on the issue, it is frequently contended that there should be a moderate to high level of participation by the subordinate in the objective setting process" (Hellriegel and Slocum, 1976, p. 418). According to McConkey, the entire management style and approach must be supportive for MBO to reach its potential as a management system. He stated that the more successful approaches have been those where management is characterized by a balanced, participative style. MBO will be least successful with an autocratic management. McConkey goes on to contend that while MBO can achieve some measure of success in a bureaucratic atmosphere, its effectiveness will be decreased by an excess of red tape, controls, and procedures (1975, p. 22).

The MBO process, whether used as a motivator for integrating individual and organizational goals, for programming decision making, or to change roles and relationships, necessitates several basic elements. These elements incorporate the benefits of explicit objectives for decision-

making and include processes basic to the MBO concept as developed by Odiorne:

> willingness to participate in collaborative goal-setting;
> delegation of authority consistent with responsibility;
> promotion of self-direction and self-control;
> provision of feedback and open communications;
> promotion of self evaluation and individual development; and,
> performance evaluation based on results achieved.

Typically, managers see themselves as more capable of initiation, self-control, and evaluation than their subordinates. This discrepancy exists for most aspects of management, but increases dramatically when supervisor/subordinate pairs are asked about obstacles hindering the subordinate's performance (From a study by Maier, et al., (1961), in Huse, 1975, p. 185). Managers which have incorporated values and attitudes necessary for establishing the above elements of the MBO process into their management role should develop a closer congruence between how they see subordinate's managing their jobs and how they see themselves managing their job (See Varney, 1971, pp. 7-10). These elements imply a move toward the human resources concept of management where subordinates would be considered (at least) nearly as capable as the manager him/herself.

A school organization which intends to use MBO to improve decision making in management's planning, directing, and evaluating functions will need to change administrators' modes of thinking to the degree that they do not currently

move through a careful consideration of needs, objectives, alternatives, means, and measures of success. However, a normative decision-making process does not mandate elements of the MBO process. If the organization is not concerned with these elements, this may mean that some other technique for programming decision making could be more useful, because MBO does incorporate some degree of consensus and collaboration between a manager and subordinates.

An intention to use MBO to move administrators towards a more consultive management style with their subordinates and external constituents may be moving merely the locus of consensus gathering from the end or results stage to the goals and means stage. Participation can range from individuals or groups generating and presenting goals or alternatives to their evaluating results. Consultation, consensus and collaboration imply differing degrees of power equalization. (See Hellriegel and Slocum (1975) for a discussion of levels of participative decision making, pp. 182-185.) The degree of change for the organization in moving towards a human relations or human resources style of management will depend upon the degree that that style is now used to develop consensus or reduce conflict and the level of participation desired by school officials.

Depending on the norms of the organization, a consultive management style may necessitate attitude changes about human needs for consideration and consultation. A Management-By-

Objectives program may facilitate such development, requiring some change in social/working relationships, but little or no change in power relationships. Also, school managers may express a willingness to participate in phases of the MBO program but not exhibit attitudes which would incorporate important elements of the process into their decision making and their management roles. The human relations management style has become a movement in education, with external and internal "advisory" councils at every level. Consultive management, therefore, has become an important practice for administrators as more groups demand to be "taken into account" when decisions are made.

If a major goal of the managing-by-objectives program is to develop a human resources management system with appropriate degrees of collaborative decision making all along the line, another dimension is added. Power relationships might need to change to a great degree if all organization members are to participate in decisions related to their work. If employees are to exercise self-direction and self-control in carrying out their tasks, the manager's role would be facilitative/ developmental as much as control. The entire decision-making cycle would be a much more collaborative process. Many school manager's basic assumptions about human needs, behavior, and roles may need to change.

With the current educational climate demanding accountability, using MBO to develop a new set of procedures for

evaluating performance appears to be a common solution. An Education Research Information Clearinghouse (ERIC) search of MBO-related publications by the author revealed that of more than fifty pertinent publications, nearly half were concerned with the evaluation of management performance (February, 1977). A different set of procedures for evaluating college managers by results rather than traits may require little change in social or power relationships. Collaborative goal-setting may not be necessary, merely the agreement of the subordinate to work for the prescribed objectives. As pointed out earlier, however, the MBO process should incorporate at least a moderate level of participation (See McConkey, 1975, p. 22, Hellriegel and Slocum, 1976, p. 418). At any rate, a new evaluation mechanism would require few attitude or role changes by school managers.

A college organization may attempt to resolve several issues with an MBO program: improving decision making and problem solving, developing a results-oriented evaluation mechanism, or moving its management towards more participative concepts. The degree of change and multiplicity of goals would increase the scope and complexity of the project. Implementing a management system with changed perceptions both about "how" and "why" things would be done would require more planning, more time, and much support for changes in the right direction.

Implementing Management-By-Objectives

Four "first considerations" are important for an organization contemplating a managing-by-objectives program:

1. an explicit determination of the purposes of the program--for decision making, changing management roles, or for performance evaluation;

2. a judgment about the degree of change required from current norms in roles, relationships, processes, and structures;

3. where the chief impetus for the change is coming from and what are the motivations of the principal actors proposing the MBO program; and,

4. what is the general organizational climate for and receptivity of its members toward the perceived goals of the program.

These judgments can form the basis for designing an implementation plan. Determinations about the real goals and the degree of change can provide an implementor with some idea about the scope and complexity of the contemplated MBO program. He/she should be better able to make a judgment about the centrality and priority of the goals if the impetus for the change is analyzed. The organizational climate and receptivity of its members towards change generally and the program specifically may yield some determination from where and to what degree the program will receive support and resistance. Implementation strategies should be a product of these determinations.

The closer the congruence between the prevailing managerial value system and the MBO approach program being implemented the less difficult the implementation process should

be. Though no change is going to be resistance-proof, managers would likely consider an MBO program appropriate and achievable if neither roles nor social and power relationships were to be changed.

The institution's leadership should develop objectives of what they wish to use the MBO process to achieve. Analyzing the different approaches and applications of MBO may help them understand how they may use the process. McConkey speaks of the necessity of management understanding the full import of MBO and its possible effects on their organization as a major question that must precede implementation (1975, p. 100).

Determination of where and from whom the impetus for change is coming can help a change agent make a decision about the power, centrality, and real goals of the proposed change. The impetus for change in colleges, as in most organizations, most often comes from the environment.

Building an early support network is important for implementing any change. It will be important for a change agent to "take soundings" to determine the general climate surrounding the stated goals of the program and to understand the history of previous efforts to implement similar programs. As Odiorne has pointed out,

> One of the major reasons for the failure of MBO in many organizations is that those in charge fail to recognize the political character of the implementation process. MBO is indeed logical and systematic, but it must also deal with a number of factors, including power and authority, the

> organization form, and the values and expectations of people (1974, p. 13).

Top management support is essential to the successful implementation of an MBO program. Caroll and Tosi, in an extensive analysis of the success of MBO implementation, concluded that the support and use of MBO by top management was the most important factor in the successful implementation of the program (1973, p. 103).

The initiation phase should include training for managers in understanding the process explicitly tailored for the organization. Reporting on a study of 300 organizations which had implemented MBO, McConkey stressed the need for a complete understanding of concepts and skills by managers. Careful step-by-step implementation was the second paramount consideration. Almost invariable the time and effort, especially in the initiation phase, was highly correlated with the degree of success reported by the organization (1975, pp. 99-100). According to McConkey, developing an understanding of the MBO process was essential for establishing commitment on the part of participants (1975, p. 107).

A training program should increase the probability of developing attitudes which will support elements basic to the MBO process. Elements important to a successful process, developed earlier in this section, included management practices which incorporated the benefits of explicit objectives with elements basic to an MBO system. A training

program may have the derived benefit of helping build a network of support for the MBO program. Hopefully, a training program would build participant's commitment for the specific MBO program as it developed a belief that each participant's own work would benefit.

CHAPTER 3

DESCRIBING THE INITIATION OF A CHANGE PROGRAM

This phase of the study describes how the staff development project evolved into reality, in other words, traces the "implementation path" for the course of the project. A brief description of the characteristics of the college setting, along with events which may have affected administrators' attitudes about implementing Management-By-Objectives, provides the context for the course of events.

A questionnaire adapted from the Rand Corporation's analysis of institutional characteristics affecting the change process forms the basis for this description (1975, See Vol. 3). The questionnaire was completed by conducting interviews with project leaders (members of the Management Department at Worcester State College), the research department of the Massachusetts State College System central office, the college president, and several participants in the training program.

This section examined the perceived need that led to the initiation of the training program, factors and events which created the need to implement a Management-By-Objectives system, and the goals of the program.

Interviews with the chief actors, college administrators and program designers, formed the basis for an attempt to characterize the initiation process, first with Havelock's models of effecting educational innovation:

> A problem-solving/R&D model characterized by a rational sequence of needs assessment, goal setting, search for alternatives, planning, etc.
>
> A social interaction model where information about "better" practices was the chief stimulus for the initiation of the project.
>
> A linkage model which involved the problem-solving/social interaction model, but relied on the contributions of an outside agency, such as a university, community organization, regional education laboratory, or state department of education in promoting and assisting change efforts.
>
> An opportunistic response to available resources and assistance where goals and treatments were adjusted to means, or some needs were selected to qualify for available support (Rand, 1975, Vol. 1, pp. 66-67).

Next, the change process is examined with the Rand dimensions for looking at the initiation of change, where knowledge and communications are seen as less important than: institutional policy setting with its incentives and constraints, the roles of principal actors, and the characteristics of the innovation (1975, Vol. 1, pp. 8-9).

Information from the questionnaire is used to establish what the goals of the program were for different actors in the organization. Pincus' scheme is used to classify the degree of change intended:

> increases the level of resource use only;
> affects the resource mix;
> affects institutional processes or methods;
> affects administration or management without significant alteration of the organization's power structure; or,
> affects either the organizational structure of or the school's relation to external authority (Rand, 1975, Vol. 1, p. 21).

The assumption is that the degree of change will have a great impact on participants' resistance to the change and the time required to implement the MBO program.

Information about the setting and a history of events within the organization which may have affected the administrative climate are used to provide clues which may help explain participants' responses. As developed in chapter 2, conditions within the setting may affect the outcome of the training project and the probable success of implementing a Management-By-Objectives program in the college. The Rand study pointed up evidence suggested in the literature when it stated that "the institutional setting profoundly influences the nature and impact of an educational innovation, as well as its likely permanence and dissemination" (1975, Vol. 2, p. 3).

The process for operationalizing the training program is reconstructed from the following questions:

> Who (managers, participants, external members) was involved in the planning?
>
> What considerations led to the organization and time line?
>
> How was the project financed?
>
> How was the evaluation of the project established?
>
> How was the project communicated to potential participants?
>
> What major issues or problems arose during the initiation?

A brief description of the chronological events of the

initiation process follows. The training program is outlined in a day-by-day sequence. The complete questionnaire is included in Appendix A.

This part of the study examines the project's implementation strategies, the substance and scope of the proposed change, and conditions within the setting which may have had an impact on the receptivity of the participants toward the proposed MBO implementation and the training project.

The Setting

Located in central Massachusetts with a county population of 182,000, Worcester is the second largest city in the state and in New England. The city is an active industrial center whose economy is moving away from its traditional strength in durable manufacturing toward sales, medical services, education, and government employment (McMullen, 1976, p. 12).

Worcester State College is one of the eleven colleges and universities in Worcester County. Other state-supported institutions include the new University of Massachusetts Medical School and Quinsigamond Community College. The remaining private institutions include three junior colleges and several colleges which also offer graduate programs. Worcester State College is accredited as a multi-purpose college. Its emphasis, no doubt due to its proximity to several junior colleges, is on upper division and graduate programs.

One of 10 colleges in the state college system,

Worcester State's enrollment has doubled over the past decade to nearly 4000 full- and part-time students (Information supplied by Dr. Jay Boucher, State College Central Office, April 1977). During this period the college has made a transition from a teachers' college by adding 14 liberal arts programs. In 1974 only 37% of its students were still enrolled in education (Taylor, 1974, p. 24). Most recently Worcester State has developed new programs in Administrative Studies, Communications Disorders, and Nursing. The college has also added C.A.G.S. programs in Educational Administration and Special Education.

Despite its increased enrollment and proliferation of its programs, Robert Leestamper, WSC's immediate past-president, characterized the college as "not having jumped on every passing bandwagon" (Taylor, 1974, p. 40). Training program participants rated the college's experience with implementing innovative programs as less than average. According to the president, administrative turnover has been low (interview with Joseph J. Orze, May 6, 1977). The college has maintained a career orientation with traditional courses and methods.

During WSC's rapid growth period from 1950-1970 the college's administration was handled by four people, the president and three deans (Taylor, 1974, p. 24). In the late 60's and early 70's, as new programs supplanted the college's singular education role, administrators for special areas were added on with little concern for overlapping roles and

functions (Interview with J. Orze, May 6, 1977). As long as resources increased there was little need to integrate planning, communications, and information systems in a now-proliferating adminstrative structure (Interview with R. Jurwalewicz, April 14, 1977).

Appointed president in 1975, Dr. Joseph Orze, came to Worcester State College as pressures for having to do more with less were increasing in the state's higher education system. A growing awareness of finite resources was focused during 1973-74 when the Governor, Commissioner of Education, and higher education officials were discussing reorganization alternatives which might utilize the state's university and college resources more effectively.

During this period the State College System administration embarked on a self-study designed to examine how well they were meeting the needs of their students and communities, how best they could grow and develop to meet their constituents' changing needs, and how the state college could integrate their common goals but still capitalize on their unique aptitudes and abilities. Their "Agenda for Renewal" (1973) addressed several areas: changing needs and goals, academic curricula, resources and facilities, and administration and organization (Interview with R. Jurwalewicz, April 14, 1977).

The report included a strategy for developing a cadre of change agents in the college system. Faculty members from

various specialties and colleges would work as research associates, analyzing and evaluating areas and concerns in the self-study. Richard Jurwalewicz, chairperson of WCS's new Department of Management researched the organization and administration of the state colleges during 1975-76. His thesis was that with or without re-organization college administration could be more effective with a professional management system designed to integrate planning, directing, and evaluating functions (Interview with R. Jurwalewicz, April 14, 1977).

On the national scene pronouncements such as "Higher Education Needs Management More Than Money" were calling attention to rising educational costs. While many were blaming the increased demand for degrees, inadequate facilities, and militant unionism, respected educational thinkers were placing the blame on ineffective managment (Deegan & Fritz, 1975, p. 5). Arthur Deegan and Roger Fritz cited Alvin C. Eurich, president of the Academy for Educational Development, who concluded that "The failure to participate in the management revolution that has swept American business and industry is haunting higher education today" (1975, p. 5). In sum, academics with a multiplicity of professional backgrounds were pronounced ill-prepared to handle awesome administrative responsibilities thrust on them.

Cognizant of this movement for developing more effective management, the Board of Regents asked Jurwalewicz to submit

a proposal aimed at developing managerial skills and integrating management functions in the state colleges (Interview with R. Jurwalewicz, April 14, 1977).

Meanwhile, newly-appointed President Orze was appraising the Worcester State College administrative structure and functions. Orze became keenly aware of the need to reorganize the administrative hierarchy by functional relationships. The need to develop an integrated management system with better communications and information systems was apparent to him (Interview with Joseph J. Orze, May 6, 1977). While he had not established "what" or "how," Orze was being confronted with a need to untangle and streamline the administrative structure.

Familiar with the State Colleges' "Agenda for Renewal" and with their increasing focus on developing management skills, Dr. Orze and Noel J. Reyburn, Vice-President and Academic Dean, attended an "MBO Goes to College" conference sponsored by the University of Colorado in August, 1976. A main thrust of this conference was that higher education needed effective management more than anything else (Deegan & Fritz, 1975, pp. 5-7). Program leaders questioned the view of the university as an intellectual retreat: a community of insulated scholars in which a management system would impose structure, hierarchy, and narrowly directed behavior. Deegan and Fritz advocated MBO as a humane and participative decision-making system (1975, p. 7). The "message and the benefits"

of MBO concurred with Orze's earlier impressions of managing-by-objectives. They also fit with Jurwalewicz' analysis and recommendations for improving managerial performance in the State College System.

President Orze was aware of the Administrative Studies Department's focus on MBO and Jurwalewicz' work with implementing Management-By-Objectives in the Massachusetts Division of Employment Security. In November Dr. Orze asked to meet with Jurwalewicz and the head of the Employment Security Division to discuss MBO as a management system and as an organizational development mechanism.

Initiating MBO with the Worcester State College Administrators

The decision to implement a Management-By-Objectives program with Worcester State College administrators coalesced from a milieu of external and internal events over a two-year period: a growing impression that better management skills could alleviate some higher education problems; a new college president with an administrative maze to untangle and to provide leadership for; a visible and committed management chairperson who articulated and advocated Management-By-Objectives as both a management system and an OD device for improving management performance; and an in-house opportunity and the resources necessary to implement the MBO system.

In February 1977 Orze invited Jurwalewicz and Gary McEachern, professor in the Department of Management, to meet with the Administrative Council, Worcester State College's

president's advisory body. The Council is composed of the college's chief administrative officers and directors of special areas. Jurwalewicz and McEachern laid out the basic technical/social framework of MBO. They cited its major advantages and sketched essential aspects of an implementing process (Interviews with R. Jurwalewicz, April 14, 1977; G. McEachern, April 17, 1977). The Council invited them to establish a proposal for implementing an MBO system and to develop a training sequence for the college's administrators.

Early in March the Administrative Council voted unanimously to implement a Management-By-Objectives system for a three-year trial period. Orze had clearly indicated his interest and commitment for the program both at meetings and during private conversations with WSC administrators. Vice-President Reyburn was equally committed to establishing the program (Interview with R. Jurwalewicz, April 14, 1977).

External factors of a crisis nature (the spectre of reorganization, diminishing resources, and declining enrollments) helped focus on a need for effective management. A new president was facing pressures similar to most public institutions today, in addition to an administrative structure which needed reorganization.

Improved managerial decision making and organizational restructuring were not the only issues. Unilaterial managerial decision making was another. Colleges are facing demands for greater input from various constituents within

the academic community about everything that occurs within it. New coalitions are becoming more articulate and want time spent considering their needs and contributions (Radio interview with Dr. Barbara Newell, President of Wellesley College, WGBH, April 23, 1977). Education institutions are being pressured to exist within and to respond to a broader community. Consensus decision making has become a necessity for responding to changing needs.

During the early seventies, MBO developed as an organizational development device for moving managers towards more participative decision making (Hellriegel & Slocum, 1976; Huse, 1975; Jun, 1976). MBO practitioners contended that concern for individual development, along with greater involvement in decision making, would facilitate the integration of individual and organizational goals. External realities combined with accelerating arguments for the position that management was management (with a commensurate set of skills), whether occuring in profit or non-profit organizations (Deegan & Fritz, 1976, p. 6; Schwarz, p. 45).

For President Orze, the "MBO Goes to College" conference helped focus the possibility of using MBO as a dual solution. He and Vice President Reyburn saw in MBO an opportunity to improve decision making and integrate management functions, as well as a mechanism for building in participation and consensus at all levels (Interview with Joseph J. Orze, May 6, 1977).

A fit between a need and a remedy occurred through a set of basically unplanned circumstances. Management-By-Objectives was, in effect, almost "lined up" as the solution. Orze's already heightened awareness of MBO was kindled by his familiarity with Jurwalewicz' MBO spcialization in the Department of Management. He had also participated in the meeting of the State College presidents where Dr. Jurwalewicz' OD proposal had been discussed and approved for submission. A conviction of a need (for better management), developed by both external and internal factors and given credibility by the "Agenda for Renewal" study, was followed by a seemingly single-path move toward MBO as a "good" solution.

Using Havelock's models of change (problem solving, social interaction, linkage, or research and development) to characterize the initiation process proved difficult. Each of the models appeared to be used at some point. The R & D and problem-solving models were evident in the first phase of the process when the State College central office initiated its "Agenda for Renewal" study and incorporated the research associate technique to develop recommendations and to act as a catalyst for change. This stage served to define the need and sanction an appropriate direction for the solution (utilizing resources for OD training in order to increase effective management).

At this point the social interaction model of change

intruded. Exposure to information about "better" practices was instrumental in the decision to implement a Management-By-Objectives system. Jurwalewicz' position in the central office also brought in a piece of the linkage model, where an outside agency (the central office) was instrumental in initiating a change effort. The Rand opportunistic model was present also. Dr. Orze had the opportunity as a new president and the resources at hand for implementing the proposed program. Trying to sort out one model for describing the initiation of the MBO program uncovered a little piece of each, but nothing really useful for establishing a pattern of institutional change.

Reality appeared to more closely follow the Rand set of dimensions for looking at the initiation of change, where knowledge and communication are seen as less important and dependent upon:

> the role of principal actors;
> the institutional structure of incentives and constraints;
> the institutional policy setting; and,
> characteristics of the innovation (1975, Vol. 1, pp. 8-9).

Institutional policy setting at the state level had defined the need for more effective administration and organization and had established a supportive posture towards organizational development efforts. At this point a new president was casting about for solutions and help. A linking pin individual with an MBO specialization helped make the fit between the remedy and the means.

Other organizational development alternatives were not seriously considered (Interview with R. Jurwalewicz, April 14, 1977; J. Orze, May 6, 1977). The dual nature (improving decision making and developing participative and consensus management styles) of the MBO process appeared to move toward solving several problems confronting the college's administration. In addition, MBO was a more-or-less proven system which could be initiated with a variety of organization arrangements.

Using Pincus' scheme for categorizing the type and degree of change attempted, the Worcester State College MBO program attempted to affect administration and management without significant alteration of the organization's power structure (See Rand, 1975, Vol. 1, p. 21). Rather, the move appeared to be in the direction of developing more participative and collegial decision making, towards a human relations style of management. Some institutional processes and methods would change as a result of the MBO process. A few roles were changed by the revised organizational structure.

The Implementation Path

As in the Rand description of the change process, four factors interacted at different times during the initiation stage: local needs, the incentives of individual actors, a "good idea," and the availability of resources. Both external and internal factors served to arouse the college president's conviction that a management system was necessary.

The fit between the need and the remedy occurred through a set of basically unplanned circumstances. Individual actors provided the glue. A newly appointed chief executive was looking for a way to reorganize the administrative structure, develop team management, and to provide leadership. A second individual articulated the solution. MBO appeared to fit neatly over the several problem areas.

The State College central office had helped define a problem area and sanctioned (in effect) OD efforts. The president could pursue utilization of his in-house talent and resources. At this point in the venture, top administrators (the Administrative Council) appear to have created a "critical mass" of support and cooperation for the "good idea." Mid-level administrators' morale and perceptions of success were generally high.

It remains to be seen to what degree important elements of the MBO process will be adopted by the actors. Changing roles and relationships of a traditional management requires some changes in attitudes and values if the goals of the program are to be met. The training programs may be critical for initiating these changes.

The Worcester State College MBO Plan

The major goal of the proposed MBO system was to provide administrators with a management (decision making) system which would integrate their planning, implementing, and monitoring functions. In addition to improving decision

making in these areas, the program was used to clarify goals and missions, improve communications, and to develop a team approach to managing. Developing participative decision making was an explicit and important objective (Interview with J. Orze, May 6, 1977).

The three-year plan voted by WSC's Administrative Council established a 12-month cycle with bi-monthly goal reviews. The first year was to be used for training administrators and learning the process. The second year will provide a run through the process. The third year will be used to evaluate and adapt the system more closely to the Worcester State College organizational processes.

Three training programs, to occur during the first four months of the three-year plan, were conceived by Jurwalewicz and McEachern. Fifteen first-line administrators went through the training program in March 1977. Twenty-three administrators participated in the second program during April and May 1977. The summer vacation period interrupted the beginning of the third sequence, now projected for the fall. All full-time administrators will participate in the training programs.

The training programs and implementation assistance were financed by releasing Jurwalewicz and McEachern from one teaching assignment for each training program. They estimated that preparing for, conducting the training sessions, and subsequent administrator assistance would require approximately

120 hours per session. Jurwalewicz based his estimation on previous experience with the Division of Employment Security and the University of Puerto Rico. Another instructor was hired to conduct their courses. At $1000 per course, this brought the cost of each training session and accompanying assistance to $2000, plus the cost of materials and clerical help. The project leaders wrote and published an in-house manual with numerous work sheets and demonstration materials. An on-campus conference room was used for training sessions. The total implementation cost will be within the $8000 range, not including the cost of participants' time (four days each) away from their work.

The MBO system will be evaluated after the administrators move through one annual cycle of the process. The project leaders will use Likert's "Profile of Organizational Characteristics" developed by the Institute for Social Research at the University of Michigan. The questionnaire taps into three primary areas: leadership, organizational climate, and satisfaction. Project directors will administer the same questionnaire at the beginning of the training sessions and at the end of the first annual cycle. Administrators will also be asked to complete a subjective evaluation of the MBO process itself.

Jurwalewicz agreed to have the author evaluate the second training program, looking at its effects on changing participants' attitudes about management and for developing

commitment for implementing the MBO system. Information from this study will be used to develop subsequent training programs and to help college leaders assess the status of their MBO system.

Communication about the proposed MBO implementation and the training program was face-to-face for first-line administrators, most of whom had been involved in discussions about the program and had voted to adopt the MBO system. The second group, not directly involved in the decision making, were aware of the plan through their supervisors. They received a communication from the president notifying them of the training program.

According to Jurwalewicz there were no real issues or problems during the initiation phase (Interview, April 14, 1977). There appeared to be some covert apprehension in a couple of remarks made by administrators, "It's not going to do any good, but I'll go along with everyone else and find out." During the first training session one administrator remarked, "Measuring results, that could be dangerous." Reactions of top-level administrators to the training sessions were generally positive and enthusiastic (Interview with R. Jurwalewicz, April 7, 1977, J. Orze, May 6, 1977). Several second- and third-level administrators called Jurwalewicz' office inquiring if and when the second sessions would occur....and to make sure they were included. The only interruptions in the planned sequence of events has been

caused by vacation periods.

Thus far, implementing Management-By-Objectives at Worcester State College appeared to follow an unimpeded and direct course with little overt resistance to impending changes in managing, either in decision making, roles, or relationships.

The WSC Training Program

Jurwalewicz and McEachern designed the MBO training programs specifically for the Worcester State College organization. With President Orze and Vice-President Reyburn they analyzed the organization's structure and administrative functions. The analysis resulted in a re-designed organization chart. Utilizing the "Agenda for Renewal" goals, President Orze developed a broad missions statement for Worcester State College. He defined his role and five objectives important for the college to achieve during the ensuing year. This statement, along with the newly designed organization structure, was the first step in the implementation process.

Orze developed a set of broad goals for a managing-by-objectives program. He was concerned that, in addition to integrating management fuctions, managers' roles and missions be clarified. Orze also desired to develop a team concept of management.

These goals formed the basis for the four-day training

program objectives:

> providing participants with a basic understanding of MBO as a total management system which could help college administrators integrate all the functions (planning, implementing, evaluating) of management;
>
> providing participants with greater insights into their role in motivation, communication, and leadership by developing an understanding of these concepts and the positive effects of participative decision making; and,
>
> enabling participants to define their roles and missions and from them to establish measurable objectives.

Fifteen top-level administrators participated in the first training session. Most of these officials made up the Administrative Council which had voted unanimously to install a Management-By-Objectives system. Twenty-two mid-level directors and supervisors participated in the second training program. A third program will include the remainder of the college's administrators.

The basic training format employed the conference method which permitted participants to interact with the learning process. Numerous overhead transparencies highlighted single concepts during short lecturettes. Case studies and exercises were designed around situations specific to the organization and functions of the college. Participants applied key management concepts to actual job situations.

At the start of the first day's session each participant received a packet including the WSC manual which explained its MBO process. The manual described how to define roles

and missions, set objectives, and develop plans of attainment. Criteria for establishing and measuring performance standards were described. Forms to be used for each phase were included in the manual.

The packet also included several articles describing and advocating managing-by-objectives. President Orze's role and missions statement and the WSC organization chart were included. Each day's schedule was listed. Several "key concepts" sheets were included. They were single sheets with such titles as "The Key Elements of Management Objectives," "Goal-oriented and Authority-oriented Supervision," and "Theory X and Theory Y Leadership Styles."

A library of MBO-related materials was available. Participants were encouraged to take these materials home to read.

The first day's six-hour program included an overview history of MBO and how it would be implemented at Worcester State College during the next three years. Participants discussed organizational climate setting during a luncheon meeting. Small group discussions on organizational communications and techniques for opening communication lines made up the third session. Participants began developing their own role and missions statements. Their homework assignment for the next week's session was to establish their key results areas and develop objectives statements. For this exercise it was necessary for them to discuss objectives with

their supervisors and to review his/her role and missions statements and work plans.

The second day began with a discussion of several participants' role and missions statements and their key result area assignments. Together they developed criteria for measuring objectives in several representative areas. Each participant then wrote measurable objectives for his/her area of responsibility. Later, participants developed job models from which their objectives were derived. A homework assignment was to write at least one objectives statement with its plan for attainment.

The third day began with small group discussions about each others' objectives and plans. Later, participants generated action plans for accomplishing objectives, including resource allocations and standards of performance for each. The homework assignment was to refine their individual position objectives and action plans, including resource allocations and performance standards.

The fourth session was used for consultation with each individual on his/her action plans and for developing the basic elements of the performance review. Participants generated performance review sheets. Later in the day they reviewed the basic elements of the MBO process and established their work review schedules on objectives and action plans. Participants' work programs were left with the training leaders to appraise and to make suggestions. They returned

the work programs during the next week. As implementation proceeded, project leaders were available for consultation and advice.

The four-day program presented an outline of Worcester State College's implementation plan, the major aspects of MBO as a management system, and a brief introduction to the psychology of motivation--a large task.

CHAPTER 4

A DESIGN FOR LOOKING AT CHANGE

Study Design

This phase of the study (chapter 3) described the setting, factors that led to the initiation of the training program and events within the college which may have affected administrators' attitudes about change generally and Management-By-Objectives specifically.

The second phase attempts to examine changes in attitudes and commitment of 23 participants, mid-level administrators at Worcester State College, of a training program designed to initiate Management-By-Objectives. A pre-post attitude questionnaire developed by the author assessed changes in participants' perceptions about the utility of the MBO concept as a management system, of the value of the MBO concept as a management system, of the value of an MBO program to college management, and their willingness to implement the concept.

The questionnaire also looks at changes in administrators' attitudes about participating in the MBO process and differences in their view as to how they and subordinates should manage their jobs. Changes in their attitudes are compared with mid- and upper-level administrators from a similar urban institution in the Massachusetts State College System, Fitchburg State College.

The major research question asked was:

Does a training program for administrators, as a first phase of a program to implement Management-By-Objectives in an urban college, affect participants' attitudes about and commitment towards implementing the program in the college and their perceptions about the utility of the process?

Implementing assumptions include:

It is necessary to establish commitment of participants prior to implementing a complex change program.

Factors and events within the school setting will affect how individuals perceive Management-By-Objectives and their attitudes towards implementing such a process in their area of responsibility.

A staff development component is important for initiating the successful implementation of a complex change program.

Individual commitment for implementing the MBO process can be represented by an expressed willingness of participants to implement the program along with a high perceived value of the program for the college.

Important elements of a Management-By-Objectives process include a willingness on the part of managers to:

participate in collaborative goal setting;
delegate authority consistent with responsibility;
provide feedback and open communications;
promote self-direction and self-control;
promote self-evaluation and individual development; and,
base performance evaluation on results achieved.

Administrators who express positive attitudes towards elements considered basic to the MBO process will be more likely to express a willingness to implement a Management-By-Objectives system in the college.

As a result of a successful training program, administrators' perceptions of the utility and value of the MBO process should broaden to include all phases of management (planning, implementing, monitoring), in addition to MBO's use as a performance evaluation tool.

Personal characterisitcs of the respondents will affect their perceptions about the MBO process and its value to college management.

Both groups of administrators responded to the questionnaire during the same time span, covering a four-week period during which Worcester State College administrators participated in weekly MBO training sessions.

Questionnaire Design

The questionnaire was designed to answer the following questions:

A. What are the effects of the MBO training program for participants as measured by differences on the pre- and post-tests for their:

   1. willingness to participate in specific steps of the MBO process?

   2. perceptions about how the administrator sees him/herself managing the job?

   3. perceptions about how the administrator sees subordinates managing their jobs?

   4. attitudes about six important elements of the MBO process?

      a. willingness to participate in collaborative goal setting
      b. willingness to delegate authority consistent with responsibility
      c. willingness to promote self-direction and self-control
      d. willingness to provide feedback and open communications
      e. willingness to promote self-evaluation and individual development

f. belief in performance evaluation based on results achieved

5. perceptions about the range of management functions affected by the use of the MBO concept?

6. perceptions about the value of implementing MBO at Worcester State College?

7. expressed willingness to implement a Management-By-Objectives program with the administrative staff, faculty, or all employees?

8. perceptions of the degree to which training and assistance for implementing MBO is necessary?

9. willingness to have their own evaluation include use of the MBO concept?

10. perceptions of the extent to which they think they already follow a managing-by-objectives approach to management?

11. perceptions of the degree to which they believe the training program will change the way they manage their areas of responsibility?

12. responses indicate that personal experience with implementing change programs will be useful in implementing an MBO program?

B. Are respondents' attitudes about basic elements of the MBO process related to:

1. their perceived value of implementing an MBO program in an urban college?

2. their willingness to implement MBO with administrators, faculty, or with all employees?

3. the degree to which respondents see MBO integrating college and individual goals?

4. the degree to which respondents see facilitating the achievement at the college's goals?

5. the extent to which respondents believe they already follow a managing-by-objectives approach to management?

6. their willingness to have their own evaluation include the use of MBO?

7. their personal characteristics?

   a. years in education
   b. years in college administration
   c. education credentials
   d. management position
   e. experience with implementing change programs

C. Which area(s) of management (planning, implementing, monitoring), if any, do respondents believe the MBO concept will have the greatest application and value?

D. What additional support and assistance do participants think is necessary for successfully implementing a Management-By-Objectives system in their college?

E. Do differences, if any, between the participant and non-participant groups' attitudes suggest any implications for subsequent MBO training programs as a strategy for initiating change in public education institutions?

The first section (questions 1-25) of the questionnaire was designed to answer questions related to the respondents' attitudes about: participating in activities representing specific stages of the MBO process; strategies related to how the manager sees him/herself managing the job; strategies related to how he/she sees subordinates managing their jobs; and, six elements considered important to a successful MBO process. These elements include:

willingness to participate in collaborative goal setting;
willingness to delegate authority consistent with responsibility;
willingness to promote self-direction and self-control;
willingness to provide feedback and open communications;

willingness to promote self-evaluation and individual development; and,
belief in performance evaluation based on results achieved.

Questions related to how an administrator sees him/herself managing the job were designed to represent "anti-MBO" attitudes which could inhibit the elements considered important to a successful Management-By-Objectives process. Questions related to how a manager sees subordinates managing their jobs represented "pro-MBO" attitudes which would reinforce elements considered important to the MBO process.

The idea for organizing questions into these two categories came from a study by Maier, Hoffman, Hoover, and Read (1961) on perceptual agreements and differences between supervisor/subordinate pairs regarding the subordinate's job. A degree of misunderstanding existed at all levels, but increased dramatically when pairs were asked about obstacles hindering the subordinate's performance. Managers believed subordinates could remove obstacles; while subordinates believed they did not have the help or power to do so (In Huse, 1975, p. 185). Another observation by the National Training Laboratory for Higher Education's review of MBO in higher education stated that "under unfavorable conditions...managers tend to dominate and to reduce employee discretion and participation" (1975, p. 24). The assumption was thus made that managers would likely concur with any strategy with their supervisors which increased <u>their</u> self-

control and participation; but, they might not be so willing to give up control and direction to subordinates. MBO "readiness" would be indicated when the managers perceived subordinates as capable of controlling, directing, and evaluating in their areas of responsibility, while they perceived themselves as less controlling and more as a facilitator and a resource.

Constructing the questions within this "anti-MBO" for themselves and "pro-MBO" for subordinates dichotomy also served to check responses to the MBO process questions. As R. Miles pointed out, "Most managers today pay at least lip service to the concept of participative management. That is most would agree that some amount of consultation with subordinates is probably useful" (1975, p. 115). Inconsistent responses between an administrator's expressed willingness to participate in the MBO process and perceptions about how to manage his/her job could be examined and taken into account when scoring the responses.

This dichotomy (differences between how a manager sees him/herself doing the job and how he/she sees subordinates managing their jobs) was first used in an MBO readiness questionnaire developed by G. H. Varney in a consultant's manual, Management By Objectives (1971, pp. 9-10). Several questions from Varney's questionnaire were adapted to an education setting for this study.

Elements considered basic to the successful implemen-

tation of the MBO process were developed by analyzing the process and from elements most frequently emphasized in research and literature. Several authors discussed three or more of these concepts as fundamental to the MBO process (See Drucker, 1976; Hellriegel & Slocum, 1976; Huse, 1975; McConkey, 1975; Miles, R., 1975; National Laboratory for Higher Education, 1975; Odiorne, 1976). R. Miles, in Theories of Management: Implications for Organizational Behavior and Development, considered most of the fundamental elements of the MBO process used in this study when he discussed Management-By-Objectives as a human resources concept of management applied (1975, pp. 106-108).

Questions comprising the second section of the questionnaire (questions 26-49) included perceptions about:

the range of management functions improved by an MBO process;
willingness to implement the program in an urban college;
the degree of training necessary for implementing an MBO program;
the degree of change required in typical working/decision making modes of most school administrators; and,
respondents' willingness to have their own evaluation include the use of MBO.

Questions related to management functions cover planning, implementing, and evaluating phases of management, in addition to questions concerning the impact of MBO on integrating organizational and personal goals. Other questions ask about MBO providing more self-determination for employees, collaborative decision making, and individual development.

Questions about training for implementing MBO ask participants their opinions about the degree of assistance and staff development necessary...from some training in writing specific objectives to continuous, in-house support. The last question in this section asked administrators to evaluate the impact of a training program on the way they actually do things in their area of responsibility.

Questions 50-54 ask about personal characterisitcs of the college's administrators: their number of years in education, in college administration, education credentials, position, and their experience with implementing change programs. Question 55 asked respondents to rate their college's experience with implementing innovative programs and complex changes. A detailed organizational outline (by concept) and a copy of the pre- and post-questionnaires are included in Appendix B.

A Likert-type scale ranging from very important/ significant to no importance/significance was used for both sections of the questionnaire. The middle response of the five-degree scale for the second section (questions pertaining to the impact and value of an MBO program) was "uncertain." This response was considered neutral.

Both questionnaire design and content were checked by the author's advisors, faculty members of the Schools of Education and Business Administration, at the University of Massachusetts.

Questionnaire Validation

Forty questions comprising the MBO "readiness" section of the questionnaire were reviewed for content validity by two MBO consultants, five public school administrators, and two English teachers. Questions with which everyone agreed (like "providing personnel with time and resources to develop his/her skills") or which were leading (like "clamp down on friction and conflict") were deleted. Ambiguous questions or questions with overlapping concepts were reworded or deleted, leaving 25 questions.

Next, nine members of the Department of Management at Worcester State College "took" the questionnaire. Several members analyzed their responses and questioned ambiguous meanings and overlapping concepts of management. Two members, practicing MBO consultants, analyzed the questions for each of the six elements considered important to the MBO process. Again, questions which could be construed in different ways, or which were unclear, were reworded.

Fifteen members of an industrial psychology class at Worcester State College responded to the questionnaire. They handscored their responses, placing them into three categories: willingness to participate in the MBO process, how they saw themselves managing the job, and how they saw subordinates managing their jobs. The same five public school administrators retook the questionnaire and followed the same procedure. Both groups could make a clear distinction

between how they saw themselves managing the job and how these attitudes were/were not congruent with their expressed willingness to participate in specific activities of the MBO process. In addition, the administrators' responses on the same or similar questions were nearly identical with their pre-test responses.

Although questions for both the pre- and post-tests were identical, they were re-arranged for the post-test to achieve a different pattern of activities. See Appendix B for a copy of both questionnaires and the table matching the pre- and post-test questions.

Sample Populations

Twenty-three participants of the training group at Worcester State College included all their second-level administrators. Directors and deans of special areas were from three major divisions: academic, administration, and student services. Participation in the training program was mandatory for this group. They had no direct participation in the decision to implement the MBO program. This group makes up nearly half of Worcester State College's 50 full-time administrators.

Nineteen mid- and upper-level administrators from Fitchburg State College volunteered to make up the non-participant group. Fitchburg State College was selected as a control group because, as a sister college in the State College System, its administrative milieu and structure

would be similar. As an institution in the State College System, their administrators would be exposed to many of the same pressures, variables, and problems. In addition, within the system they are most alike in size and urban setting. In 1976 Worcester State College had 2895 and Fitchburg State College 3077 full-time students. WSC has a larger continuing studies division for part-time students than does FSC. Worcester State has 186 and Fitchburg State 207 full-time faculty members (Information supplied by Dr. Jay Boucher, State College central office, April 1977). Organization charts marked for positions of participants from both colleges are included in Appendix D.

Data Collection and Analysis

Questionnaires for both groups were labelled and numbered by position, matched for both the pre- and post-tests. The training group completed their questionnaires during the first and last sessions of the program. Fitchburg State College questionnaires were distributed during two staff meetings approximately one month apart. Volunteer respondents returned their questionnaires to the president's office. Both groups completed questionnaires during the same time span--late April and May, 1977. Respondents were assured complete anonymity.

The researcher collected the questionnaires from both institutions and then had responses tabulated by another individual. The grouping of concepts and the correlation

of questions had been worked out by the author during the design of the questionnaire. This analysis is outlined in Appendix C. Responses were key punched and submitted to the data processing center at the University of Massachusetts.

The Statistical Package for the Social Sciences (SPSS) was used to analyze the data. The T-Test was used to test the significance (at the .05 level) between mean differences on matched pre-post test questions 1-49 for the experimental and control groups. Chi Square procedures were used to test for independence between personal characteristics of the respondents and their attitudes about basic elements of the MBO process. The Pearson-Product Moment correlation was used on the pre-test to evaluate the relationships between groups of questions representing respondents' attitudes about their:

willingness to participate in steps of the MBO process;
perceptions of how the manager sees him/herself managing the job;
perceptions of how the manager sees subordinates managing their jobs;
the six important elements of the MBO process;
the range of management functions affected by the use of an MBO system;
willingness to have their own evaluation include the use of MBO; and,
the value of implementing an MBO system in the college.

See Appendix C for an outline of which questions correspond with the above list.

Limitations of the Research

This study is limited by the extent that any question-

naire can ascertain the real attitudes of its respondents towards the MBO process and the way they actually manage their areas of responsibility. In addition, the reliability of the questionnaire to determine these attitudes may be questioned.

The characteristics of the participant and non-participant groups may not be comparable due to the small size of each sample and to the inability to equate them exactly for demographic characteristics (by position or statistically). The samples may, therefore, be vulnerable to systematic biases as well as random distortions.

Participants in the training program were likely considerably more informed about the MBO process than non-participants. They had received information about MBO and had discussed the proposed system and the training program with supervisors who had already completed training and portions of their work plans. Both the impending implementation and their non-volunteer status could have had an impact on their responses.

The methodology, specifically one set of questions for both pre- and post-tests, though re-arranged, may have biased the results. Also, participants of the training program would have had some prior insight into the styles of management reflected by the questions. Different methods of giving the tests to the two groups may have affected responses. Participants completed the questionnaire in a training-testing setting while non-participants completed the questionnaire at

their leisure, in a non-threatening atmosphere.

The statistics used to analyze and validate the instrument were limited to arithmetical averages and observations of correlations. Also, the statistics used to analyze and to evaluate the responses could have been inadequate, inappropriate, or both.

Training Program Data and Analysis

This section presents and analyzes the data obtained from a pre-post attitude survey administered to a group of college administrators who participated in an MBO training program. Effects of the training program were compared with a second group of administrators from another college in the same state system which was not implementing Management-By-Objectives. The questionnaire was designed to assess changes in participants' attitudes about the MBO process and their willingness to implement the program at their college.

The questionnaire looked at differences in respondents' attitudes about:

willingness to participate in activities representing specific stages of an MBO process;

perceptions of how the manager sees him/herself managing the job;

perceptions of how the manager sees subordinates managing their jobs;

six elements of the MBO process related to participative goal setting, delegating authority, providing open communications, and promoting self-direction and self-evaluation;

the range of management functions affected by the use of an MBO system;

willingness to have their own evaluation include the use of MBO; and,

the value of implementing an MBO system at their respective colleges.

Twenty three mid-level administrators from Worcester State College in Massachusetts and 19 mid- and upper-level administrators from Fitchburg State College made up the training and control groups. Worcester State College was in the process of implementing MBO with administrators in their institution. Their first-level administrators had already completed a four-day training program. They had completed work plans which outlined four to six objectives, specifying how they were to be accomplished and evaluated.

The mid-level administrators participating in the second training program represented all the management divisions of the college. Appendix D identifies positions of each of the participants in the WSC training program. See Appendix E for frequencies on questions related to the demographic characterisitcs of the participants--questions 50-54.

Nineteen Fitchburg State College administrators volunteered to make up the control group. The college was selected for two reasons: because it is an institution in the same state college system and therefore subjected to many of the same pressures and exists in much the same educational milieu; also, its size and urban setting are similar to those of Worcester State College. See Appendices D and E for a

description of the group's administrative positions and their demographic characteristics.

The training and control groups did not differ significantly on their demographic characteristics. A T-Test on the mean responses for years in education, level of training, years in college administration, and major area of administration revealed that the two groups could be considered statistically matched (See Table 1). The Worcester State administrators had slightly more years in education than did the Fitchburg State administrators, but not significantly greater (at the .05 level). Approximately 62% of the administrators in both groups had worked in education more than 10 years. 70% had 0-10 years' experience in college administration. 57% of both groups had a masters' degree, while 19% had doctorates. The academic and student services divisions were the two major areas of administration represented, making up nearly 71% of the sample populations.

Both groups rated their experience with implementing innovative projects between moderate and moderately high. They rated their colleges' experience with innovative programs and complex changes slightly lower than their own, but within the same range (See Table 1). The groups' ratings for their and their college's experience with implementing change programs were not significantly different. Worcester State administrators rated their college slightly higher than did Fitchburg State administrators.

TABLE 1

COMPARISON OF DEMOGRAPHIC CHARACTERISTICS AND EXPERIENCE WITH CHANGE FOR THE TRAINING AND CONTROL GROUPS

CHARACTERISTIC	QUES.	GROUP	MEAN	S.D.	T-VALUE	D/F	PROB.
Years in education	50	T	4.4783	.665	1.87	28.77	.071
		C	3.9474	1.079			
Level of training	51	T	4.4783	.593	1.67	28.60	.105
		C	4.0526	.970			
Years in college administration	52	T	4.0437	.767	.19	38.91	.854
		C	4.0000	.745			
Major area of administration	53	T	3.4348	.896	1.38	34.51	.176
		C	3.0000	1.106			
Experience with implementing change projects	54	T	3.6957	.822	-.87	39.97	.389
		C	3.8947	.658			
Rating of college's experience with implementing change	55	T	3.1739	1.072	.17	31.44	.870
		C	3.1053	1.524			

TABLE 2

CHI-SQUARE RELATIONSHIPS BETWEEN ALL RESPONDENTS' ATTITUDES ABOUT SIX BASIC ELEMENTS OF THE MBO PROCESS AND DEMOGRAPHIC CHARACTERISTICS OF ALL RESPONDENTS ON THE PRE-TEST

CHARACTERISTIC	QUESTION	CHI-SQUARE	D/F	SIGNIFICANCE
Years in education	50	6.883	6	.332
Level of training	51	5.378	6	.437
Number of years in college administration	52	11.301	6	.079
Major area of administration	53	7.894	8	.444
Experience with implementing change projects	54	2.350	6	.885

Respondents' attitudes on the pre-test about basic elements considered important to a successful MBO system were not related to their demographic characteristics (See Table 2). Questions represented participative goal setting, delegation of authority, providing open communications, and promoting self-direction and self-evaluation. Multiple questions in each category were averaged to arrive at one statistic for the total concept. The number of years in college administration came closest to being related to attitudes about these elements, but was not significant at the .05 level. Years in education or level of training were not related to attitudes about elements of the process. Neither were respondents' ratings on their experience with change related to their attitudes about elements considered important to the MBO process.

Both groups' responses on the pre-test indicated that they believed activities representing specific stages of the MBO process were important for improving individual performance and achieving the college's goals (See Table 3). Mean frequencies for these questions were all between 4 (important) and 5 (very important) before the program began (See Appendix E for frequencies on questions 1, 6, 7, 9, 10, 12, 21, 22, and 24). On the pre-test the participants' responses were generally more positive than the control groups' for this set of questions. On the pre-test Worcester State College administrators clearly believed that an MBO

system was important for improving performance and achieving the organizational goals.

On the post-test, the highly positive responses of the Worcester State administrators on questions related to stages of the MBO process decreased slightly, but not significantly except on question 12 (See Table 3). Participants continued to hold positive views about the value of activities making up the MBO process. However, the only stages of the process where the values increased were for allowing staff members to propose goals and measures of performance for their own jobs and for asking instructors and students to participate in evaluating department and college performance. Mean differences between the pre- and post-test comparing both groups were significant at the .05 level for these two questions (See Table 3). The statistical significance reported on asking instructors and students to participate in evaluating department and college performance appears to be due more to a drop in the control group's mean response on that activity than on the training group's increase (Note question 1, Table 3).

A surprising result was the decrease in participants' perceptions about the importance of establishing goals and measures of performance which could serve as guidelines for subordinates setting their objectives (See question 12, Table 4). Since the control group's mean response did not change, the resulting significant difference was due entirely

TABLE 3

SUMMARY OF T-TEST ANALYSIS ON PRE-POST MEAN DIFFERENCES

FOR WILLINGNESS TO PARTICIPATE IN SPECIFIC STEPS

OF THE MBO PROCESS

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
7. Consult with faculty, advisory committees, and students to establish college and department goals.	T C	.0 -.3158	1.168 .820	1.03	39.08	.311
10. Collaborate with instructors/staff members to re-align job duties and responsibilities around department objectives and individual capabilities.	T C	-.0870 .0526	1.203 .843	- .44	39.13	.663
24. Develop a joint understanding with your immediate supervisor of what is expected and what criteria will measure the degree of your success.	T C	-.1304 .2105	.757 .918	-1.30	34.90	.204
12. Establish goals and measures of success for your area which can serve as guidelines for staff members setting their objectives.	T C	-.8261 .0	1.586 .816	-2.17	34.10	*.037

TABLE 3 (CONTINUED)

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
22. Allow staff members/ instructors to propose goals and measures of performance for their own jobs and departments.	T C	.2609 -.1579	.541 .958	1.69	27.18	.102
9. Develop a joint understanding with each instructor/ staff member of what is expected and what criteria will measure his/her success.	T C	-.2609 -.0526	.915 .524	- .92	36.00	.362
6. Periodically review work progress with department heads and supervisors to measure results against objectives.	T C	-.0435 -.1579	.367 .501	.83	32.26	.414
21. Jointly assess the success of individual staff member's goals and means used to achieve them with him/her.	T C	-.1739 -.3158	.778 .820	.57	37.67	.571
1. Ask instructors and students to participate in evaluating department and college performance.	T C	.2609 -.4737	1.054 1.172	2.12	36.68	*.041
TOTAL CONCEPT	T C	-.1111 -.1345	.434 .362	.19	39.99	.850
MBO READINESS QUOTIENT questions 1-25	T C	.5565 .0316	.405 .495	4.95	38.89	*.000

*sig. at .05 level

to the participant group's drop in their mean response.

Overall, participants' willingness to participate in stages of the MBO process went down slightly, although the decrease was not statistically significant. The author's assumption that a successful training program would increase participants' willingness to participate in specific steps of the MBO process was not confirmed. On the pre-test participants rated this set of questions as significant (mean: 4.043) for improving individual performance and achieving college goals.

It would appear that the pre-test also measured participants' expectations and what they had been hearing about the process from their supervisors. The slight decrease in their mean response on the post-test may indicate that "reality had set in" and with that a realization of their responsibilities to their subordinates in order to actualize the new program. However, they still rated MBO process activities as significant.

The greatest degree of change for the training group came in how participants believed they should manage their jobs. These questions were highly directive and controlling, regarded as inhibiting elements important to a successful MBO program. Changes in the mean scores for the several questions making up the total concept were highly significant (See Table 4). The greatest changes were observed in the following areas, all significant at the .001 level:

monitoring work and resources constantly to ensure that things are getting done;

providing staff members information related only to their specific jobs and departments;

spelling out exactly what jobs and performance are expected; and,

training staff members to work according to standard procedures.

Four other attitudes related to this concept were significant at the .05 level (See Table 4):

telling employees where they are going wrong and convincing them of the merits of changing their attitudes;

not taking non-supervisory employees' time by involving them in setting goals and priorities;

solving work problems for staff members quickly; and,

encouraging staff members to concentrate on their jobs and leave decisions and planning to department heads and supervisors.

Thus, a positive increase in the mean for each question (Note, for instance, question 2 on Table 4) indicates a decrease in directive, authoritarian managing and an increase in the direction important to a successful MBO process.

For the total concept (questions 2, 4, 5, 8, 11, 13, 16, 19, and 25 averaged) of how managers saw themselves doing the job, the difference between the training and control group on the post-test was significant at the .001 level. The control group's mean responses changed relatively little.

The training program apparently had a significant positive effect, decreasing the extent participants saw highly directive

TABLE 4

SUMMARY OF T-TEST ANALYSIS ON PRE-POST MEAN DIFFERENCES FOR HOW RESPONDENTS IN EACH GROUP BELIEVED THEY SHOULD MANAGE THEIR JOBS

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
2. Monitor all work and resources constantly to ensure that things are getting done, staying within the budget, and then taking corrective action.	T C	2.0000 .3158	1.446 1.416	3.80	38.80	*.000
4. Provide instructors/staff members information related only to their specific jobs or performance.	T C	1.4348 - .1579	1.674 .958	3.86	35.99	*.000
5. Spell out exactly what staff members' and instructors' jobs are and what performance is expected of them.	T C	2.2609 .7368	1.602 .933	3.84	36.31	*.000
8. Ask staff members and instructors to check with administrators or department heads before introducing new ways of doing their work.	T C	.8696 .4211	1.254 1.261	1.11	37.35	.275
11. Tell employees where they are going wrong and convince them of the merits of changing their approaches and attitudes.	T C	1.3043 .4211	1.428 1.261	2.13	39.80	*.040

*sig. at .05 level

TABLE 4 (CONTINUED)

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
13. Train staff members/instructors to work according to standard procedures and a standardized curriculum.	T C	1.7391 - .4211	1.356 1.017	3.60	39.68	.001
16. Don't take non-supervisory employees' time by getting them involved in setting goals and priorities for the department or college.	T C	1.0000 - .2105	1.732 1.316	2.57	39.76	*.014
19. Solve work problems for staff members quickly so they can get back to work.	T C	1.1304 .2105	1.604 .787	2.42	33.25	*.021
25. Encourage instructors/staff members to concentrate on their jobs and leave decisions and planning to department heads and supervisors.	T C	.3913 - .3684	1.270 1.212	1.98	39.13	*.055
TOTAL CONCEPT	T C	1.3478 .1968	.705 .468	6.31	38.37	*.000

*sig. at .05 level

and controlling behavior as improving individual performance or achieving college goals. On the post-test they saw controlling behavior as significantly less important; at least, their responses indicated a change. For a group already willing to participate in and to implement MBO this was perhaps the most important effect a training program could have.

A second important effect of the training program involved changes in participants' attitudes about how subordinates should manage their jobs. The direction of the change was towards greater participation and self-direction.

Responses to the set of questions (See Table 5) related to participants' perceptions about how subordinates should manage their jobs changed significantly in three areas (at the .05 level):

> encouraging instructors/administrators to solve their own work problems, but be available to them as a resource;
>
> encouraging staff members to meet and develop plans and solve problems in their own areas; and,
>
> allowing staff members extensive freedom to plan and organize their own work.

The training group's mean responses on all questions related to how subordinates should manage their jobs increased except on one question. The mean response for "Collaborate with staff to realign duties around objectives and individual capabilities" dropped slightly (-.087), but not significantly (See Table 5). The control group's total response changed

TABLE 5

SUMMARY OF T-TEST ANALYSIS OF PRE-POST MEAN DIFFERENCES FOR HOW RESPONDENTS IN EACH GROUP BELIEVED SUBORDINATES SHOULD MANAGE THEIR JOBS

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
3. Encourage instructors and administrators to solve their own work problems.	T	.5652	1.121	2.94	39.48	*.006
	C	- .3158	.828			
10. Collaborate with staff to re-align duties around objectives and capabilities.	T	- .0870	1.203	- .44	39.13	.663
	C	.0526	.848			
14. Measure staff performance against results achieved.	T	.4783	1.275	1.37	39.06	.177
	C	- .0526	1.224			
15. Allow departments to supervise budget tialored to achieve plans.	T	.2174	.671	- .57	24.52	.572
	C	.4211	1.427			
17. Give all levels information about goals so they can assess validity of their goals and means to achieve them.	T	.1739	.650	1.71	39.44	.094
	C	- .1579	.602			
18. Encourage staff to meet and develop plans and solve problems in their own areas.	T	.2609	.864	2.04	39.46	*.048
	C	- .2105	.631			

*sig. at .05 level

TABLE 5 (CONTINUED)

QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
20. Set up a system where information on performance results goes directly to the individuals and departments involved.	T C	.3043 .7368	1.743 1.195	- .95	38.80	.348
22. Allow staff to propose goals and measures of performance for their own jobs.	T C	.2609 - .1579	.541 .958	1.69	27.18	.102
23. Allow staff extensive freedom to plan and organize their own work.	T C	.7826 - .2105	1.126 .631	3.60	35.60	*.001
TOTAL CONCEPT	T C	.3285 .0117	.602 .339	2.15	35.73	*.039

*sig. at .05 level

very little.

Changes in how managers perceived subordinates managing their jobs was not as great as were changes in how managers perceived they should manage their jobs. However, the participant group started out with a higher mean for this concept (3.739) than for how they should manage their jobs (2.391). One might expect less change.

A third important effect of the training program appeared in changes in participants' attitudes about questions related to elements considered important to a successful MBO process (See Table 6). Participants' attitudes compared with the control group changed significantly on four of the six concepts (at the .05 level):

willingness to participate in collaborative goal setting;
willingness to promote self-direction and self-control;
willingness to provide feedback and open communications; and,
willingness to promote self-evaluation and individual development.

Though "willingness to delegate authority consistent with responsibility" did increase for the training group, the difference was not significant at the .05 level (See Table 6). The change for the control group was negligible.

These concepts consisted of multiple questions with both "pro" and "con" attitudes towards the concept. Combining these responses served to check respondents who might rate questions with participative, self-directing

TABLE 6

SUMMARY OF T-TEST ANALYSIS ON PRE-POST MEAN DIFFERENCES FOR RESPONDENTS' ATTITUDES ABOUT BASIC ELEMENTS OF THE MBO PROCESS

ATTITUDE	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Willingness to participate in collaborative goal setting	T	.4037	.534	3.21	39.34	*.003
	C	- .0526	.385			
Willingness to delegate authority consistent with responsibility	T	.7101	.747	1.86	37.45	.071
	C	.2632	.798			
Willingness to promote self-direction and self-control	T	.8913	.730	4.63	36.75	*.000
	C	.0526	.601			
Willingness to provide feedback and open communications	T	.6377	.627	2.66	39.44	*.011
	C	.1404	.581			
Willingness to promote self-evaluation and individual development	T	.5652	.758	2.09	37.34	*.043
	C	.0526	.815			

*sig. at .05 level

TABLE 6 (CONTINUED)

ATTITUDE		GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Belief in performance evaluation based on results achieved							
	For self:	T	- .0174	.473	- .24	39.49	.814
		C	.0158	.435			
	For others:	T	.2174	.704	1.46	38.22	.152
		C	- .1053	.718			
	TOTAL:	T	.1014	.536	.61	38.28	.549
		C	.0000	.544			
Attitudes about basic elements of the MBO process--TOTAL CONCEPT		T	.1014	.442	1.23	37.03	.226
		C	- .0351	.269			

*sig. at .05 level

management styles as highly significant, while they also rated directive, controlling activities as highly significant (See Appendix B, Organization of Questionnaire by Concepts).

However, when the questions were "averaged" together, attitudes about activities representing basic elements of the MBO process did not change significantly (at the .05 level). The chief reason appeared to lie in the negligible change in participants' attitudes about performance evaluation based on results achieved (See Table 6). Attitudes about having themselves evaluated on results achieved decreased slightly--perhaps more evidence of reality affecting the participants. The difference between pre- and post-tests for both groups was slight.

Mean responses on these questions (willingness to have their evaluation include an assessment of the use of MBO with their staff and willingness to have their evaluation include an assessment of objectives achieved) were high (4.174 and 4.739 respectively) on the pre-test. The fact that means decreased does not signify that participants became unwilling to tie their evaluations to the MBO process. The change was not significant at the .05 level. Both groups rated MBO's effect on administrators working/decision-making modes as significant. The WSC group's rating was slightly higher.

The MBO Readiness Quotient was obtained by including questions representing attitudes about the MBO process--

management styles as highly significant, while they also rated directive, controlling activities as highly significant (See Appendix B, Organization of Questionnaire by Concepts).

However, when the questions were "averaged" together, attitudes about activities representing basic elements of the MBO process did not change significantly (at the .05 level). The chief reason appeared to lie in the negligible change in participants' attitudes about performance evaluation based on results achieved (See Table 6). Attitudes about having themselves evaluated on results achieved decreased slightly--perhaps more evidence of reality affecting the participants. The difference between pre- and post-tests for both groups was slight.

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The MBO Readiness Quotient was obtained by including questions representing attitudes about the MBO process--

--how respondents saw themselves managing the job and how they say subordinates managing the job (questions 1-25). These questions had also been designed to represent attitudes which related to six processes or elements considered important to a successful MBO program.

The training program did significantly increase participants' readiness to participate in an MBO program, based on assumptions established by the author about important aspects of the process. The mean difference between Readiness Quotients (RQ) for the training and control groups was significant at the .001 level (See Table 3). The training group mean increased (.556) while the control group mean changed very little. One would have to say that, overall, the training program significantly affected participants' attitudes about behaviors implicit in the MBO process.

On the whole, both groups on the pre-test perceived MBO as positively affecting a wide range of management fuctions (See Appendix E for a table of frequencies of responses related to questions 26-35). However, on the post-test the training group's responses decreased slightly, but not significantly (See Table 7). Interestingly enough, their mean response about MBO linking performance to evaluation decreased by nearly 20%. Perhaps, as the intent of the Worcester State College plan unfolded, they perceived it less as an evaluation mechanism. Also, as the process became clear, they perhaps, too, saw MBO as being less

TABLE 7

SUMMARY OF T-TEST ANALYSIS ON PRE-POST MEAN DIFFERENCES

FOR THE EFFECTS OF MBO ON COLLEGE MANAGEMENT

EFFECT	QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Integrate organizational and personal goals	26	T	.1304	.694	.34	36.49	.737
		C	.0526	.780			
Degree MBO can help achieve organizational goals	27	T	.1739	.778	1.32	37.36	.194
		C	- .1579	.834			
Coordinate directing and monitoring functions	28	T	- .2609	.619	- .78	37.54	.438
		C	- .1053	.658			
Provide a foundation for a formal planning system	29	T	- .0435	.928	-1.28	35.08	.208
		C	.3684	1.116			
Link performance to evaluation of personnel	30	T	- .5652	1.727	-1.59	28.57	.122
		C	.0526	.621			
Help plan and set priorities	31	T	- .1739	.650	.41	36.41	.682
		C	- .2632	.733			

TABLE 7 (CONTINUED)

EFFECT	QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Give personnel more responsibility for controlling their own work	32	T C	.0870 .1053	.900 .809	- .07	39.68	.945
Establish collaborative decision making and shared problem solving	33	T C	.0 .1053	.853 .809	- .41	39.19	.684
Foster development of individual skills and capacity	34	T C	.3043 .1579	.765 .958	.54	34.19	.593
Affect typical working/decision-making modes	35	T C	.1739 - .1579	1.154 .834	1.08	39.38	.287
Degree training program will change way respondent manages his/her area	49	T C	.1304 - .4737	1.014 1.389	1.58	32.22	.124

a panacea for solving all the problems of management. The decrease was not significant; both groups responded positively on the post-test to the potential impact of MBO on a wide range of management functions.

The degree to which participants saw MBO integrating personal and organizational goals increased slightly, along with the degree to which they saw MBO helping achieve organizational goals. The highest mean increase for participants was in the extent to which participants saw MBO fostering development of individual skills. The increase was not significant.

The training program did not significantly affect participants' willingness to implement an MBO system at Worcester State College. Nor did participants' attitudes about the value of implementing MBO change significantly (See Table 8). A high perceived value on willingness to implement MBO with all employees and on willingness to implement MBO with adminstrators decreased slightly for both groups on the post-test. Appendix E includes the pre-post frequencies for questions cited in Table 8.

Understanding the reality of the process and the extra work involved in a new program may have dimmed participants' enthusiasm slightly. But, they still rated their willingness to implement MBO and the value of the process as significant. It is interesting, also, that the Fitchburg State College group's mean response for willingness to implement MBO was

TABLE 8

SUMMARY OF T-TEST ANALYSIS ON PRE-POST TEST MEAN DIFFERENCES FOR WILLINGNESS TO IMPLEMENT MBO AND BE EVALUATED WITH THE MBO PROCESS

WILLINGNESS	QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Value of implementing MBO in a department or college	36	T C	.1739 .0	1.072 .577	.67	34.89	.508
Willingness to implement with administrators	37	T C	.0 - .4211	.522 1.346	1.29	22.47	.212
Willingness to implement with instructional staff	38	T C	- .3043 - .2105	1.363 1.475	- .21	37.20	.833
Willingness to implement with all employees	39	T C	- .2609 - .0526	1.287 .621	- .69	32.96	.498
Willingness to have evaluation include use of MBO with staff	40	T C	- .0435 - .1579	1.147 .958	.35	39.99	.727

TABLE 8 (CONTINUED)

WILLINGNESS	QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Willingness to have evaluation include specific objectives achieved	41	T C	- .0870 .0526	.515 .524	- .87	38.24	.392
Degree already following a managing-by-objectives approach	48	T C	- .2174 .0	1.278 .745	- .69	36.33	.497

also high on both the pre- and post-test. They rated the value of implementing MBO in a college as significant (See Appendix E).

Clearly, the Worcester State College administrators' level of commitment was there before the first session of the training program. While their attitudes about the value of implementing the program went up slightly, the difference was not significant.

As noted in Table 8, the training group's willingness to have their evaluation include the use of MBO and to be evaluated on objectives they achieved decreased slightly, but not to a significant degree. Both groups' responses about the degree to which they already followed a managing-by-objectives approach fell just above "uncertain," with the WSC responses slightly higher.

The training group did view training in developing and writing specific objectives as slightly less essential at the end of the training program. Participants' attitudes about the degree of training and assistance necessary for implementing MBO had not changed significantly at the end of the training program (See Table 9). However, their mean responses on questions 42-48 remained between significant and highly significant on the post-test (See Appendix E). Perhaps writing objectives seemed less formidable at the end of the sessions. The need for continuous in-house support increased to a small degree for the training group.

TABLE 9

SUMMARY OF T-TEST ANALYSIS ON PRE-POST MEAN DIFFERENCES FOR THE DEGREE TRAINING AND ASSISTANCE IS NECESSARY TO IMPLEMENT MBO

TRAINING	QUESTION	GROUP	MEAN DIFFERENCE	S.D.	T-VALUE	D/F	PROB.
Training in writing objectives	42	T	- .3913	.722	-1.80	35.58	.080
		C	.0526	.848			
Time out of working day to supervise and train	43	T	.0	.674	- .25	37.81	.807
		C	.0526	.705			
A training program	44	T	.1739	.778	- .35	36.52	.731
		C	.2632	.872			
Consultant assistance during objectives-setting	45	T	.0870	.739	-1.60	38.87	.119
		C	.4737	.772			
Continuous in-house assistance plus initial training	46	T	.2609	.541	.93	29.41	.362
		C	.0526	.848			
Experience with implementing change as helpful	47	T	- .1304	1.014	- .28	39.83	.780
		C	- .0526	.780			

Both the WSC and FSC administrators saw all degrees of support and assistance as important for implementing an MBO program.

Respondents in both groups saw personal experience as helpful, but slightly less so on the post-test, for implementing an MBO program.

Pearson Product-Moment correlations were obtained on the pre-test for the groups as a whole in order to test the significance of several relationships assumed by the test design (See Table 10). Respondents' perceptions about how they saw themselves managing the job were inversely correlated (at the .001 level) with how they saw subordinates managing their jobs. In other words, if a manager saw "monitoring work and resources" as highly significant for improving performance he/she was not as likely to see "allowing departments supervision over their budgets" as significant.

Respondents' attitudes about the MBO process as a means of achieving organizational goals and improving performance were inversely related (at the .05 level) with how they saw themselves managing the job. Again, if they perceived controlling and directing activities as highly significant, they were less likely to perceive activities representing stages of the MBO process as significant (See Table 10).

Activities representing the MBO process were correlated (at the .001 level) with respondents' attitudes about how subordinates managed their jobs (See Table 10). If managers saw self-directing, participative subordinates as significant

TABLE 10

PEARSON CORRELATIONS ON THE PRE-TEST FOR BOTH GROUPS' ATTITUDES

ABOUT RELATED MBO CONCEPTS

RELATIONSHIPS	COEFFICIENT	SIGNIFICANCE
Respondents' perceptions about how they see themselves managing the job correlated with how they see subordinates managing their jobs	- .6880	*.001
Willingness to participate in MBO process correlated with how they see themselves managing the job	- .2660	*.044
Willingness to participate in MBO process correlated with how respondents see subordinates managing their jobs	.5043	*.001
Attitudes about basic elements of MBO correlated with the degree MBO can help integrate organizational and individual goals	.1119	.240

*sig. at .05 level

TABLE 10 (CONTINUED)

RELATIONSHIPS	COEFFICIENT	SIGNIFICANCE
Attitudes about basic elements of MBO correlated with the degree MBO can help achieve organizational goals	.3193	*.021
Attitudes about basic elements of MBO correlated with value of implementing MBO in the organization	- .0004	.499
Attitudes about basic elements of MBO correlated with willingness to implement MBO:		
with administrators	- .1110	.242
with instructional staff	- .0166	.458
with all employees	- .0340	.415
Attitudes about basic elements of MBO correlated with respondents' willingness to have his/her evaluation include use of MBO	- .1251	.215

*sig. at .05 level

TABLE 10 (CONTINUED)

RELATIONSHIPS	COEFFICIENT	SIGNIFICANCE
Attitudes about basic elements of MBO correlated with respondents' willingness to have his/her evaluation based on results achieved	.0888	.290
Attitudes about basic elements of MBO correlated with degree he/she already follows a managing-by-objectives approach to management	- .0513	.373
Degree personal experience with change helpful for implementing MBO	.2253	.081

for improving performance, they were likely to see the MBO process questions as also significant for improving performance and achieving organizational goals.

Roles considered important to a successful MBO process were not significantly correlated with respondents' perceptions of the degree to which MBO would help integrate organizational and individual goals (See Table 10). However, attitudes about important elements of the process were significantly correlated (at the .05 level) with the degree to which respondents believed MBO would help achieve organizational goals (See Table 10).

Attitudes about six basic elements of the process were not significantly correlated with respondents' perceptions about the value of implementing MBO nor with participants' willingness to implement MBO with the various groups (See Table 10).

Attitudes related to management roles and relationships were not related to attitudes about the value of the process nor with willingness to implement an MBO program. However, elements implicit in the process were correlated with the degree to which respondents believed MBO could help achieve organizational goals. Commitment for implementing the program appeared to be unrelated to managers' attitudes about elements implicit in the MBO process.

The readiness portion of the attitude survey (questions 1-25) did substantiate the author's assumptions about relationships between how the administrator perceived him/

herself managing the job and how he/she viewed subordinates managing their jobs. As expected, the traditional authoritarian and controlling management style was inversely correlated with attitudes about participative, self-directing, and self-controlling subordinates. Expressed willingness to participate in the MBO process was inversely correlated with directive, controlling management, but positively correlated with a participative management style.

In summary, the MBO training program significantly affected participants' attitudes about their management roles. It also affected their notions about effective subordinate roles. On the post-test managers saw themselves as improving performance and achieving organizational goals by being less directive and controlling, while they saw subordinates as more participative and self-directing.

The program had a positive effect on participants' attitudes about elements considered implicit in the MBO process. Participants exhibited more positive attitudes towards participative goal setting, willingness to provide feedback and open communications, and on their willingness to promote self-evaluation and individual development. Compared with the control group, participants' MBO "readiness" score (RQ) increased significantly.

While participants' attitudes about their role in management changed significantly, generally their attitudes about implementing MBO changed relatively little. They were

committed to implementing the program to a significant degree before the initiation of the training program. The reality of the process appeared to dim their expectations slightly; however, the difference was not statistically significant.

Participants viewed MBO's effect on college management as high both before and after the training program. Both the training and control groups perceived MBO as significantly affecting a wide range of management functions. Participants' perceptions of MBO's link with performance evaluation decreased slightly on the post-test. They saw MBO as helping a college achieve its goals to a significant degree. Participants also saw MBO as integrating individual and organizational goals to a significant degree.

Both groups viewed training and extra support as important for implementing a Management-By-Objectives system. The training group viewed help in writing explicit objectives as slightly less essential at the end of the training program. This decrease may suggest a positive effect of the program; at the completion of the program writing explicit objectives did not represent such a formidable task. Anticipation of "being put on the line" may have slightly decreased participants' willingness to participate in stages of the MBO process as well as their willingness to link their evaluation with MBO.

Clearly, the training program affected participants' attitudes about their roles and about relationships implicit in the MBO process. A staff development program did not

significantly affect perceptions about the value of MBO or participants' willingness to implement the program. Commitment was there to a significant degree before the program began.

CHAPTER 5

EFFECTS OF A CHANGE STRATEGY

Chapter 1 presented the rationale for a need to look at change from an implementation perspective. The introduction presented a resume' of current research on planned change and ideas about managing change. The major concepts underlying the proposed change program, Management-By-Objectives, were introduced.

Chapter 2 presented major research in several areas related to the study: planned change, factors in managing change programs, planned change in education, the Rand model of the change process, and Management-By-Objectives.

Chapter 3 described the implementation of Management-By-Objectives in an urban state college. This phase of the study described the setting, factors that led to the initiation of the training program, and events within and external to the college which appeared to influence administrators' attitudes about the need to implement an MBO program.

Chapter 4 outlined the research designed to examine the effects of an MBO training program on its participants. The rationale for and the design of the attitude survey were discussed. The pre-post attitude survey looked at the impact of the training program on participants' attitudes about their and subordinates' roles in improving individual performance and achieving organizational goals. The survey also examined the effects of the training program on

participants' perceptions about the value of MBO to college management and their willingness to implement the program.

The second section of chapter 4 presented the results and an analysis of the data obtained from the pre-post attitude survey administered to the training group and to a control group comprised of administrators from another urban state college in the same system. Data was presented which examined the effects of the training program, as well as the author's assumptions underlying the questionnaire design.

Chapter 5 will present conclusions obtained from examining both the setting and the effects of the MBO training program on its participants. Conclusions about the design and use of training programs to institute complex organizational changes will be discussed.

Summary

Decisions to implement Management-By-Objectives at Worcester State College followed the Rand dimensions for looking at change, where knowledge and communications were less important and dependent upon:

> the role of principal actors;
> the institutional structure of incentives and constraints;
> the institutional setting; and,
> characteristics of the innovation
> (1975, Vol. 1, pp. 8-9).

Institutional policy setting had defined the need (from external events) for more effective administration. They had also established a supportive policy towards organizational

development.

As in the Rand model of the change process, four factors interacted at different times during the initiation stage: local needs, the incentives of individual actors, a "good idea," and the availability of resources (1975, Vol. 3, sec. 2). Both external and internal factors served to arouse the college's president's convictions that a management system was necessary.

The fit between the need and the remedy occurred through a set of basically unplanned circumstances. Individual actors provided the glue. A newly appointed chief executive was looking for a way to reorganize the administrative structure, develop team management, and to provide leadership. A second individual articulated the solution. MBO appeared to fit neatly over several problem areas. Top-level administrators were involved in the decision to implement the MBO program. In addition, in-house expertise and resources were available.

The staff development program was designed to outline both the social and technical concepts of the Management-By-Objectives process. The program setting was one of reality for participants; MBO was being implemented. Program leaders stressed MBO's use as a total management system.

Effects of a Change Strategy

The training program did appear to affect participants' attitudes about their management roles. Managers saw

themselves as improving individual performance and achieving organizational goals by being significantly less directive and controlling. They perceived subordinates as more participative and self-directing.

The program also had a significant effect on participants' attitudes about elements considered implicit in the MBO process. Participants exhibited more positive attitudes towards participative goal setting, providing feedback and open communications, and willingness to promote self-evaluation and individual development. Compared with the control group, participants' MBO Readiness Quotient (RQ) increased significantly.

While attitudes about roles changed significantly, attitudes about implementing MBO changed relatively little. Participants were committed to implementing the MBO program to a significant degree before the training program began. The reality of the MBO process appeared to diminish slightly participants' positive responses on specific stages of the MBO process, their willingness to implement the system, and their willingness to link their evaluation with MBO. However, the decrease was not significant. Participants continued to view MBO's impact on college management as high. They also viewed training and support for implementing an MBO system as important.

Clearly, the training program affected participants' attitudes about their roles and about relationships implicit

in the MBO process. The program did not significantly affect their perceptions about and the value of MBO, or their willingness to implement the program. Commitment was already there to a significant degree.

Commitments, evidently made in the early stages of the proposed change, affected what happened when implementation began. Data and observations made from this study supported research cited in chapter 2 where studies stressed that if the receptivity was high, successful change usually resulted. The reality of the implementation may also have had a significant effect; MBO was being implemented at Worcester State College. Besides developing a problem-solving mode, reality appeared to have a second effect, eroding to some degree participants' expectations and willingness to implement the process.

Developing commitment and receptivity of individual actors for a proposed change is a critical first strategy. These motivations appeared to come more from the setting during the early initiation stage than from learning. Commitment did not build as learning increased. Training appeared to have more of an effect on changing attitudes implicit in the MBO process than on attitudes about the process.

Training as a Change Strategy

A training program designed to implement a complex change, like Management-By-Objectives, should be preceded

by explicitly stated goals that specify which roles and relationships are intended to be changed. The reality of dealing with a new and complex process necessitates that individuals have a high degree of commitment along with a knowledge of what to expect about what will change.

A well-planned training program will include organizational support mechanisms already "in place." For instance, WSC participants knew they would receive additional help in going through the first cycle whenever the need occurred. Also, participants' responses indicated a continued significant need for all degrees of support and assistance. These mechanisms also imply a tolerance for uncertainty and a need for assistance. They may also provide support for dealing with unanticipated problems.

In addition to all the factors related to a well-planned training program, in-house leadership for the program appeared important. Inside expertise gave the training program credibility; someone the participants knew and worked with believed the program was valuable.

Time between sessions, even a couple of days, may also be important. This gives participants time to absorb and integrate what they will be doing and why. Spacing also appeared to help participants break the process up into smaller segments. Time between sessions may also forestall participants reaching an "innundation threshold" where the whole thing becomes too much to cope with.

"Homework" assignments linked to participants' own roles also appeared to be effective. Participants took them seriously, knowing what they were doing would help them complete their part in the process.

An impending time line for completing the implementation process linked to the training also appeared to motivate participants to take the training program seriously.

All in all, implementing a complex program without both training and pre-planned support mechanisms appeared to be an invitation to failure. A well-designed staff development program, conducted with motivated participants, can be an effective change strategy.

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Appendix A

Setting Questionnaire

These questions were used to describe the organizational setting and how the project evolved into reality. The questionnaire was adapted from the Rand Corporation's analysis of institutional characteristics which affected the change process (1975, Vol. 3).

1. What was the perceived need that led to the initiation of the MBO training project?

2. What would you consider was the source of the need to implement a Management-By-Objectives program in the college?

3. Are the project's goals new to the system or something always thought important? (to implement Management-By-Objectives)

4. Who (by position) was the author of the idea for the MBO program? for the staff development project?

5. Who (by position) was the chief proponent of MBO? of the training program?

6. Will the proposed program (the MBO process) when implemented affect:

   a. what managers do, basic functions of planning, implementing, or evaluating?
   b. management techniques or methods for accomplishing the functions they do now?
   c. management orientation for planning, setting priorities, or problem solving?
   d. goals of management?
   e. evaluation of personnel?
   f. relationships with subordinates? superordinates?
   g. management roles?
   h. organization's structures?

7. Were alternatives for meeting the perceived need for implementing an MBO program considered? If so, what kinds, and why were they discarded?

8. What people (by position) were involved in developing the staff development proposal? How were they involved?

9. What routes (decision points) did the proposed training project travel before it was accepted and operationalized?

10. What was the planning process? How was the project operationalized?

    a. Who was involved? (managers, participants, external members)
    b. What considerations led to the organization and time line?
    c. How was the project financed?
    d. How was the evaluation of the project established?
    e. How was the project communicated to potential participants?
    f. How was the target group selected?
    g. What major issues or problems arose during the initiation?

11. Identify (by position) the chief supporters of the proposed project. Was anyone doubtful about either the necessity or the success of the training program?

12. Characterization of the initiation process:

    a. A problem solving/R&D characterized by a rational sequence of needs assessment, goal setting, search for alternatives, planning, etc.?

    b. A social interaction model where information about "better" practices was the chief stimulus for the initiation of the project?

    c. A linkage model which involved the problem-solving and social interaction model but relied on the contribution of an outside agency, such as a university, community organization, regional education laboratory, or state department of education in promoting and assisting change efforts?

    d. An opportunistic response to available resources and assistance where goals and treatments were adjusted to means, or some needs were selected to qualify for available support?

13. A brief description of chronological events of the initiation process.

14. Were there problems with implementing the project itself or contingency events which affected the initiation of the program?

15. Baseline characteristics of the organization:

a. size: number of students _____ full-time

_____ part-time

number of faculty _____ full-time

_____ part-time

number of administrators _____

b. budget: _____ total allocation

_____ per student expenditure

c. student/faculty/administrator ratios

d. administrator turnover rate

e. administrator age patterns

f. experience of college with implementing complex programs (your opinion)

g. degree of innovative programs in the college (your opinion)

h. chief source of ideas and funding for innovation programs in the college (your opinion)

Appendix B

Management Questionnaire

Questions included in the attitude questionnaire (1-25) are outlined within stages of the MBO process and elements of the process considered important to a successful MBO program. Stages of the process with numbers in parenthesis have been included in the questionnaire. When process questions are included with "elements" questions, the makeup of the questionnaire is about equally "pro" and "con" MBO.

Questions marked "opposite" represent attitudes which could inhibit important elements of the MBO process. Nineteen questions are based on either how a manager sees subordinates managing their jobs or how the manager sees him/herself managing the job.* Elements important to the MBO process suggest that when the manager sees him/herself as much a facilitator and resource as a controller, the process may function more successfully.

Process questions outlined within stages of the MBO cycle**

I. System's (or unit's) common goals and measures of performance

1. Consult with faculty, advisory committees, and students to establish college and department goals. (7)***

2. Bring faculty and other staff members together to develop action plans and set priorities for a school or department. (also a stage I to IV link)

II. Revisions in organizational structure

3. Collaborate with instructors/staff members to re-align job duties and responsibilities around department objectives and individual capabilities. (10)

III.a Supervisor sets down goals and measures for subordinates

4. Establish goals and measures of success for your area which can serve as guidelines for staff members setting their objectives. (12)

III.b Subordinate proposes goals and measures

5. Allow staff members/instructors to propose goals and measures of performance for their own jobs and departments. (22)

IV. Joint agreement on subordinate's goals

6. Develop a joint understanding with your immediate supervisor of what is expected

and what criteria will measure the degree of your success. (24)

7. Develop a joint understanding with each instructor/staff member of what is expected and what criteria will measure his/her success. (9)

8. Jointly define with individual staff members their main objectives and means to achieve them.

V. Feedback of interim results against milestones

9. Periodically review work progress with department heads and supervisors to measure results against objectives. (6)

VI. Cumulative periodic review of subordinate results against targets

10. Jointly assess the success of individual staff member's goals and means used to achieve them with him/her. (21)

VII. Review of organization (or unit) performance

11. Collaborate with staff members to assess and modify department goals.

12. Ask instructors and students to participate in evaluating department and college performance. (1)

Questions related to respondent's willingness to participate in important elements of the MBO process

I. Collaborative goal-setting (related to I, III, and IV of the MBO cycle) (also questions 7, 9, 12, 22)

1. (opposite) Don't take non-supervisory employees' time by getting them involved in setting goals and priorities for the department or college. (16)

2. (opposite) Spell out exactly what staff members' and instructors' jobs are and what performance is expected of them. (5)

3. (opposite) Encourage instructors/staff members to concentrate on their jobs and leave decisions and planning to department-heads and supervisors. (25)

II. Delegating authority consistent with responsibility (also question 10)

4. Allow departments responsible for reaching an objective to supervise the budget tailored to achieve their plans. (15)

5. (opposite) Monitor all work and resources constantly to ensure that things are getting done, staying within the budget, and then taking corrective action. (2)

III. Promote self-direction and self-control

6. Allow instructors and staff members extensive freedom to plan and organize work and courses in their own departments. (23)

7. (opposite) Ask staff members and instructors to check with administrators or department heads before introducing new ways of doing their work. (8)

8. Encourage staff members and departments to set up meetings and other ways to develop plans and solve problems in their own areas. (18)

9. Encourage instructors and administrators to solve their own classroom and work problems, but be available as a consulting resource. (3)

10. (opposite) Solve work problems for staff members quickly so they can get back to work. (19)

11. (opposite) Train staff members/instructors to work according to standard procedures and a standardized curriculum. (13)

IV. Provide feedback and open communications

12. Give all levels of employees information about college and department goals so they can assess the validity of their own goals and means to achieve them. (17)

13. (opposite) Provide instructors/staff members information related only to their specific jobs or performance. (4)

14. Set up a system where information on performance results goes directly to the individuals and departments involved rather than through the administrator or department heads first. (20)

V. Promote self evaluation and individual development (also question 21)

15. (opposite) Tell where they are going wrong and convince them of the merits of changing their approaches and attitudes. (11)

VI. Performance evaluation based on results (also questions 6, 24)

16. Measure staff and teaching performance against results achieved more than activities initiated or effort expended. (14)

Questions 3, 10, 14, 15, 17, 18, 20, 22, and 23 are related to how a manager perceives subordinates managing their jobs.*

Questions 2, 4, 5, 8, 11, 13, 16, 19, and 25 are related to how a manager perceives him/herself doing the job.*

Questions 1, 6, 7, 9, 10, 12, 21, 22, and 24 relate to specific stages of the MBO cycle.**

* Questions related to respondent's perceptions of how he/she manages the job and how subordinates manage their jobs have been adapted from a questionnaire developed to measure MBO readiness by: Varney, G. H. Management by objectives. Chicago: The Dartnell Corporation, 1971.

** From: Odiorne, G. S. Management by objectives. New York: Pitman Publishing Corp., 1965, p. 78.

*** Numbers in parenthesis refer to the corresponding number on the questionnaire. Questions in the MBO process section without numbers following them were not selected to make up the questionnaire. They were left in so the reader could observe which specific steps were included in the questionnaire.

April-May 1977

Dear Administrator:

This questionnaire is part of a dissertation effort to examine college administrators' attitudes about management and the effects of training programs on management.

Your responses on a pre- and post-survey will be important for reaching conclusions and making decisions about future training programs for college administrators.

It is important that responses be matched by position for both the pre- and post-surveys. Therefore, will you write your position below the number on this page. The position and number will be written on the post-survey which you will be asked to respond to at the end of the month. Your responses will be completely confidential and anonymous.

Please respond as you see the question fitting into your area of responsibility.

Thank you for your assistance.

Sincerely yours,

M.B. Koch

M.B. Koch

MANAGEMENT QUESTIONNAIRE

How important are the following activities as the best way to improve performance of college employees and to achieve department or college goals? Read each item and circle the response which most nearly reflects your opinion.

		very important	important	average	not very important	not important
1.	Ask instructors and students to participate in evaluating department and college performance.	5	4	3	2	1
2.	Monitor all work and resources constantly to ensure that things are getting done, staying within the budget, and then taking corrective action.	5	4	3	2	1
3.	Encourage instructors and administrators to solve their own classroom and work problems, but be available as a consulting resource.	5	4	3	2	1
4.	Provide instructors/staff members information related only to their specific jobs or performance.	5	4	3	2	1
5.	Spell out exactly what staff members' and instructors' jobs are and what performance is expected of them.	5	4	3	2	1
6.	Periodically review work progress with department heads and supervisors to measure results against objectives.	5	4	3	2	1
7.	Consult with faculty, advisory committees, and students to establish college and department goals.	5	4	3	2	1
8.	Ask staff members and instructors to check with administrators or department heads before introducing new ways of doing their work.	5	4	3	2	1
9.	Develop a joint understanding with each instructor/staff member of what is expected and what criteria will measure his/her success.	5	4	3	2	1
10.	Collaborate with instructors/staff members to re-align job duties and responsibilities around department objectives and individual capabilities.	5	4	3	2	1

		very important	important	average	not very important	not important
11.	Tell where they are going wrong and convince them of the merits of changing their approaches and attitudes.	5	4	3	2	1
12.	Establish goals and measures of success for your area which can serve as guidelines for staff members setting their objectives.	5	4	3	2	1
13.	Train staff members/instructors to work according to standard procedures and a standardized curriculum.	5	4	3	2	1
14.	Measure staff and teaching performance against results achieved more than activities initiated or effort expended.	5	4	3	2	1
15.	Allow departments responsible for reaching an objective to supervise the budget tailored to achieve their plans.	5	4	3	2	1
16.	Don't take non-supervisory employees' time by getting them involved in setting goals and priorities for the department or college.	5	4	3	2	1
17.	Give all levels of employees information about college and department goals so they can assess the validity of their own goals and means to achieve them.	5	4	3	2	1
18.	Encourage staff members and departments to set up meetings and other ways to develop plans and solve problems in their own areas.	5	4	3	2	1
19.	Solve work problems for staff members quickly so they can get back to work.	5	4	3	2	1
20.	Set up a system where information on performance results goes directly to the individuals and departments involved rather than through the administrator or department heads first.	5	4	3	2	1
21.	Jointly assess the success of individual staff member's goals and means used to achieve them with him/her.	5	4	3	2	1
22.	Allow staff members/instructors to propose goals and measures of performance for their own jobs and departments.	5	4	3	2	1

	very important	important	average	not very important	not important
23. Allow instructors and staff members extensive freedom to plan and organize work and courses in their own departments.	5	4	3	2	1
24. Develop a joint understanding with your immediate supervisor of what is expected and what criteria will measure the degree of your success.	5	4	3	2	1
25. Encourage instructors/staff members to concentrate on their jobs and leave decisions and planning to department-heads and supervisors.	5	4	3	2	1

The following questions look at your perceptions of the impact of a Management-By-Objectives program on college administration. Circle the response which reflects the degree you believe various aspects of an MBO process would affect management.

	highly significant	significant	uncertain	slightly significant	not at all significant
26. Help integrate personal with department or college goals?	5	4	3	2	1
27. Help a college or department achieve its goals and objectives?	5	4	3	2	1
28. Help coordinate management functions involved in directing and monitoring a department or a college?	5	4	3	2	1
29. Provide a foundation for setting up a formal planning system in the college?	5	4	3	2	1
30. Link performance to evaluation of personnel?	5	4	3	2	1
31. Help administrators in planning and setting their priorities?	5	4	3	2	1
32. Give personnel more responsibility for managing and controlling their own work?	5	4	3	2	1
33. Help establish collaborative decision making and shared problem solving?	5	4	3	2	1

		highly significant	significant	uncertain	slightly significant	not at all significant
34.	Serve to foster the development of individual skills and capacities?	5	4	3	2	1
35.	Affect the typical working/decision making modes of most college administrators?	5	4	3	2	1
36.	Your judgment of the value of implementing an MBO program in a department or college?	5	4	3	2	1

To what extent would you be willing to have a Management-By-Objectives program implemented with the following groups:

37.	The adminstrative staff?	5	4	3	2	1
38.	The instructional staff?	5	4	3	2	1
39.	All college employees?	5	4	3	2	1

To what extent would you like to see your own evaluation include:

40.	An assessment of your use of MBO with your staff or department?	5	4	3	2	1
41.	An assessment of specific objectives you have achieved?	5	4	3	2	1

To what extent do you see training or experience as necessary for implementing a Management-By-Objectives program with any group?

42.	Training in developing and writing specific objectives as essential?	5	4	3	2	1
43.	Some time during working hours for supervisors to train and assist staff members as essential?	5	4	3	2	1
44.	A training program developing the rationale for and the philosophy of MBO management as essential?	5	4	3	2	1
45.	Consultant assistance during the objectives-setting period as essential?	5	4	3	2	1
46.	Continuous expert in-house support and assistance in addition to an initial training program as desirable?	5	4	3	2	1
47.	Personal experience with implementing complex change and innovations in a department or college as helpful?	5	4	3	2	1

	highly significant	significant	uncertain	slightly significant	not at all significant

To what extent would you say you already follow a managing-by-objectives approach to management?

48. 5 4 3 2 1

Overall, would you say an MBO training program will cause a great deal, some, or very little change in the way you actually do things in your area of responsibility?

49. 5 4 3 2 1

50. Please circle the numbers which correspond to the number of years you have worked in education (all levels).

0-4 5-9 10-14 15-19 20 or more

51. Circle the designation which most closely corresponds to your level of training.

High School Bachelor's Master's

Master's Plus C.A.G.S. Doctorate

52. Circle the number which most closely corresponds to the number of years you have been in college administration.

0-4 5-9 10-14 15-19 20 or more

53. Circle your major area of administration.

Academic Student Services Personnel

Business Affairs Plant

54. Rate your experience with implementing innovative projects or complex changes in your department or the entire college.

Great Moderately High Moderate Slight None

55. Rate your college's experience with implementing innovative projects or complex changes during the last four or five years.

Great Moderately High Moderate Slight None

Thank you!

May 1977

Dear Administrator:

This questionnaire is the second part of the Management Questionnaire you completed several weeks ago. It examines college administrators' attitudes about management and the effects of training programs on ideas about managing.

The questionnaire is designed to be matched by position for both pre- and post-surveys. Therefore, it is important that you complete both for comparison purposes.

You have been kind to help me gather information for a research study. I appreciate your time and consideration. Without such assistance my field research would fail.

Thank you again for your help.

Sincerely yours,

Mary Batchelder Koch

Mary Batchelder Koch

How important are the following activities as the best way to improve performance of college employees and to achieve department or college goals? Read each item and circle the response which most nearly reflects your opinion.

	very important	important	average	not very important	not important
1. Encourage instructors/staff members to concentrate on their jobs and leave decisions and planning to department-heads and supervisors.	5	4	3	2	1
2. Establish goals and measures of success for your area which can serve as guidelines for staff members setting their objectives.	5	4	3	2	1
3. Develop a joint understanding with your immediate supervisor of what is expected and what criteria will measure the degree of your success.	5	4	3	2	1
4. Tell where they are going wrong and convince them of the merits of changing their approaches and attitudes.	5	4	3	2	1
5. Allow instructors and staff members extensive freedom to plan and organize work and courses in their own departments.	5	4	3	2	1
6. Collaborate with instructors/staff members to re-align job duties and responsibilities around department objectives and individual capabilities.	5	4	3	2	1
7. Allow staff members/instructors to propose goals and measures of performance for their own jobs and departments.	5	4	3	2	1
8. Develop a joint understanding with each instructor/staff member of what is expected and what criteria will measure his/her success.	5	4	3	2	1
9. Jointly assess the success of individual staff member's goals and means used to achieve them with him/her.	5	4	3	2	1
10. Ask instructors and students to participate in evaluating department and college performance.	5	4	3	2	1

		very important	important	average	not very important	not important
11.	Set up a system where information on performance results goes directly to the individuals and departments involved rather than through the administrator or department heads first.	5	4	3	2	1
12.	Consult with faculty, advisory committees, and students to establish college and department goals.	5	4	3	2	1
13.	Solve work problems for staff members quickly so they can get back to work.	5	4	3	2	1
14.	Periodically review work progress with department heads and supervisors to measure results against objectives.	5	4	3	2	1
15.	Encourage staff members and departments to set up meetings and other ways to develop plans and solve problems in their own areas.	5	4	3	2	1
16.	Spell out exactly what staff members' and instructors' jobs are and what performance is expected of them.	5	4	3	2	1
17.	Give all levels of employees information about college and department goals so they can assess the validity of their own goals and means to achieve them.	5	4	3	2	1
18.	Provide instructors/staff members information related only to their specific jobs or performance.	5	4	3	2	1
19.	Don't take non-supervisory employees' time by getting them involved in setting goals and priorities for the department or college.	5	4	3	2	1
20.	Encourage instructors and administrators to solve their own classroom and work problems, but be available as a consulting resource.	5	4	3	2	1
21.	Allow departments responsible for reaching an objective to supervise the budget tailored to achieve their plans.	5	4	3	2	1
22.	Monitor all work and resources constantly to ensure that things are getting done, staying within the budget, and then taking corrective action.	5	4	3	2	1

	very important	important	average	not very important	not important
23. Measure staff and teaching performance against results achieved more than activities initiated or effort expended.	5	4	3	2	1
24. Ask staff members and instructors to check with administrators or department heads before introducing new ways of doing their work.	5	4	3	2	1
25. Train staff members/instructors to work according to standard prodecures and a standardized curriculum.	5	4	3	2	1

The following questions look at your perceptions of the impact of a Management-By-Objectives program on college administration. Circle the response which reflects the degree you believe various aspects of an MBO process would affect management.

	highly significant	significant	uncertain	slightly significant	not at all significant
26. Affect the typical working/decision making modes of most college administrators?	5	4	3	2	1
27. Link performance to evaluation of personnel?	5	4	3	2	1
28. Serve to foster the development of individual skills and capacities?	5	4	3	2	1
29. Provide a foundation for setting up a formal planning system in the college?	5	4	3	2	1
30. Help establish collaborative decision making and shared problem solving?	5	4	3	2	1
31. Help coordinate management functions involved in directing and monitoring a department or a college?	5	4	3	2	1
32. Give personnel more responsibility for managing and controlling their own work?	5	4	3	2	1
33. Help a college or department achieve its goals and objectives?	5	4	3	2	1

	highly significant	significant	uncertain	slightly significant	not at all significant
34. Help administrators in planning and setting their priorities?	5	4	3	2	1
35. Help integrate personal with department or college goals?	5	4	3	2	1
36. Your judgment of the value of implementing an MBO program in a department or college?	5	4	3	2	1

To what extent would you be willing to have a Management-By-Objectives program implemented with the following groups:

37. All college employees?	5	4	3	2	1
38. The administrative staff?	5	4	3	2	1
39. The instructional staff?	5	4	3	2	1

To what extent would you like to see your own evaluation include:

40. An assessment of your use of MBO with your staff or department?	5	4	3	2	1
41. An assessment of specific objectives you have achieved?	5	4	3	2	1

To what extent do you see training or experience as necessary for implementing a Management-By-Objectives program with any group?

42. Continuous expert in-house support and assistance in addition to an initial training program as desirable?	5	4	3	2	1
43. Consultant assistance during the objectives-setting period as essential?	5	4	3	2	1
44. A training program developing the rationale for and the philosophy of MBO management as essential?	5	4	3	2	1
45. Some time during working hours for supervisors to train and assist staff members as essential?	5	4	3	2	1
46. Training in developing and writing specific objectives as essential?	5	4	3	2	1
47. Personal experience with implementing complex change and innovations in a department or college as helpful?	5	4	3	2	1

	highly significant	significant	uncertain	slightly significant	not at all significant
To what extent would you say you already follow a managing-by-objectives approach to management?					
48.	5	4	3	2	1
Overall, would you say an MBO training program will cause a great deal, some, or very little change in the way you actually do things in your area of responsibility?					
49.	5	4	3	2	1

Management Questionnaire

Reorganization of questions for post-test

PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
1	10	29	29
2	22	30	27
3	20	31	34
4	18	32	32
5	16	33	30
6	14	34	28
7	12	35	26
8	24	36	36
9	8	37	38
10	6	38	39
11	4	39	37
12	2	40	40
13	25	41	41
14	23	42	46
15	21	43	45
16	19	44	44
17	17	45	43
18	15	46	42
19	13	47	47
20	11	48	48
21	9	49	49
22	7	50	--
23	5	51	--
24	3	52	--
25	1	53	--
26	35	54	--
27	33	55	--
28	31		

Appendix C

Research Questions

The research questions are listed with the corresponding numbers of the questions from the pre-test questionnaire. This outline was prepared in order to describe which concepts were keyed to specific questions and to enable the statistician to develop appropriate statistical techniques.

A. Do the participant and non-participant groups differ significantly on pre- and post-tests in the following areas?

1. willingness to participate in specific steps of the MBO process?
   questions: 1, 6, 7, 9, 10, 12, 21, 22, 24

2. perceptions about how they and subordinates should manage their jobs?
   Self: questions: 2, 4, 5, 8, 11, 13, 16, 19, 25*
   Subordinates: questions: 3, 10, 14, 15, 17, 18, 20, 22, 23

3. attitudes about six important elements of the MBO process?
   a. willingness to participate in collaborative goal setting
      pro: 7, 9, 12, 22 *con: 5, 16, 25
   b. willingness to delegate authority consistent with responsibility
      pro: 10, 15 *con: 2
   c. willingness to promote self-direction and self-control
      pro: 3, 18, 23 *con: 8, 13, 19
   d. willingness to provide feedback and open communications
      pro: 17, 20 *con: 4
   e. willingness to promote self-evaluation and individual development
      pro: 21 *con: 11
   f. belief in performance evaluation based on results achieved
      pro: (for self) 24 *con: none
      (for others) 6, 14
      (together) 6, 14, 24

4. range of processes affected by the use of the MBO approach to management?
   a. degree to which MBO can integrate organizational and personal goals
      question: 26

b. degree to which MBO can help achieve organizational goals
   question: 27
c. management functions (planning, implementing, and monitoring) affected by an MBO system
   questions: 28, 29, 30, 31
d. increase responsibility for self-management
   question: 32
e. increase collaborative decision making
   question: 33
f. foster individual development
   question: 34
g. affect typical working/decision-making modes
   question: 35

5. value of implementing MBO with personnel groups in the college?
   question: 36

6. expressed willingness to implement MBO with administrators, faculty members, all employees?
   questions: 37, 38, 39

7. degree to which training and assistance for implementing MBO is necessary?
   questions: 42, 43, 44, 45, 46, 47

8. willingness to have own evaluation include use of MBO?
   questions: 40, 41

9. extent to which respondents think they already follow a managing-by-objectives approach to management?
   question: 48

10. degree to which the training program will change the way respondent will manage his/her area of responsibility?
    question: 49

B. Are respondents' attitudes about the six important elements of the MBO process correlated with:
   (questions 3, 6, 7, 9, 10, 12, 14, 15, 17, 18, 20, 21, 22, 23, and 24 correlated with:)

1. their perceived value of implementing an MBO system in the college organization?
   question: 36

2. their expressed willingness to implement MBO with

administrators?	question: 37
faculty members?	question: 38
all employees?	question: 39

3. the extent to which respondents see MBO integrating school an individual goals?
   question: 26

4. the degree to which MBO can help achieve organizational goals?
   question: 27

5. the extent they perceive themselves as already following a managing-by-objectives approach to management?
   question: 48

6. their expressed willingness to have their own evaluation include the use of MBO?
   questions: 40, 41 (each and together)

7. their personal characteristics?

years in education?	question: 50
level of training?	question: 51
years in administration?	question: 52
area of administration?	question: 53
experience with change?	question: 54

C. Is respondents' personal experience with implementing change correlated with degree they consider experience helpful in implementing an MBO system?
   question 47 correlated with 54

D. Is respondents' willingness to participate in specific steps of the MBO process correlated with their expressed willingness to participate in the proposed program?
   questions 1, 6, 7, 9, 10, 12, 21, 22, 24,
   correlated with 37, 38, 39

E. To what degree are respondents' perceptions about how they see themselves managing the job correlated with how they see subordinates managing their jobs (Note the inverse relationship of these two sets of questions. The manager ranks higher on MBO readiness for self if he/she answers 1).
   questions 2, 4, 5, 8, 11, 13, 16, 19, 25
   correlated with 3, 10, 14, 15,17, 18, 20, 22, 23

F. Is respondents' willingness to participate in specific steps of the MBO process correlated with perceptions of how they see themselves managing the job?
   questions 1, 6, 7, 9, 10, 12, 22, 24
   correlated with 2, 4, 5, 8, 11, 13, 19, 25

G. Is respondents' willingness to participate in specific steps of the MBO process correlated with perceptions of how they see subordinates managing their jobs?
questions 1, 6, 7, 9, 10, 12, 21, 22, 24
correlated with 3, 10, 14, 15, 17, 18, 20, 22, 23

H. To what degree do both groups view their college as experienced with implementing innovative programs and complex changes?
question: 55

I. Which area(s) of management (planning, implementing, monitoring) do respondents believe the MBO concepts will have the greatest application and value?
questions: 26, 27, 28, 29, 30, 31, 32, 33, 34, 35

J. What additional support and assistance do participants think is necessary for successfully implementing a Management-By-Objectives system in their college?

K. Are respondents' personal characteristics related to their responses on individual questions and on groups of questions representing concepts?
questions: 50, 51, 52, 53, 54
correlated with 2-11 below.

*Questions related to perceptions about how the manager sees him/herself managing the job and questions marked "con" would be considered positive if the respondent marked a 1 rather than a 5. Note the inverse relationship on questions: 2, 4, 5, 8, 11, 13, 16, 19 and 25.

In cases where concepts consist of multiple questions, the questions are "averaged" in order to achieve one statistic for the entire concept. Concepts with multiple questions include:

1. willingness to participate in specific steps of the MBO process
questions: 1, 6, 7, 9, 10, 12, 21, 22, 24

2. perception of how the manager should do his/her job
questions: 2, 4, 5, 8, 11, 13, 16, 19, 25

3. perception of how subordinates manage their jobs
questions: 3, 10, 14, 15, 17, 18, 20, 22, 23

4. general attitude about six important elements of the MBO process
questions: 3, 6, 7, 9, 10, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24

5. willingness to participate in collaborate goal setting
   pro: 7, 9, 12, 22 con: 5, 16, 25 (inverse)

6. willingness to delegate authority consistent with responsibility
   pro: 10, 15 con: 2 (inverse)

7. willingness to promote self-direction and self-control
   pro: 3, 18, 23 con: 8, 13, 19 (inverse)

8. willingness to provide feedback and open communications
   pro: 17, 20 con: 4 (inverse)

9. belief in performance evaluation based on results achieved
   pro: (for self) 24 con: none
   (for others) 6, 14
   (together) 6, 14, 24

10. willingness to have own evaluation include use of MBO
    questions: 40, 41

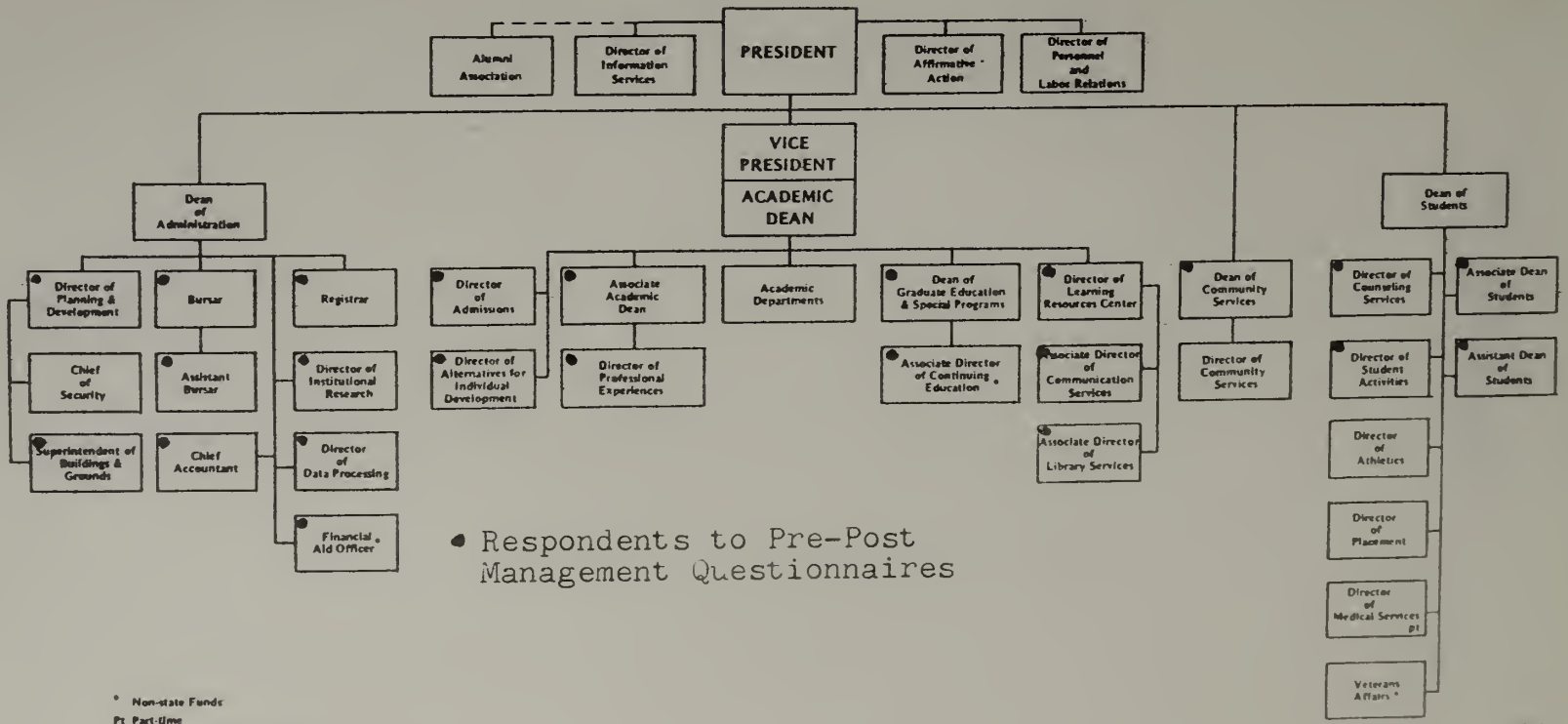
11. MBO "readiness quotient"
    questions: 1-25 averaged (inverse relationship questions "turned around" before summing).

Appendix D

Training Group

WORCESTER STATE COLLEGE

ORGANIZATIONAL CHART



- Respondents to Pre-Post Management Questionnaires

* Non-state Funds

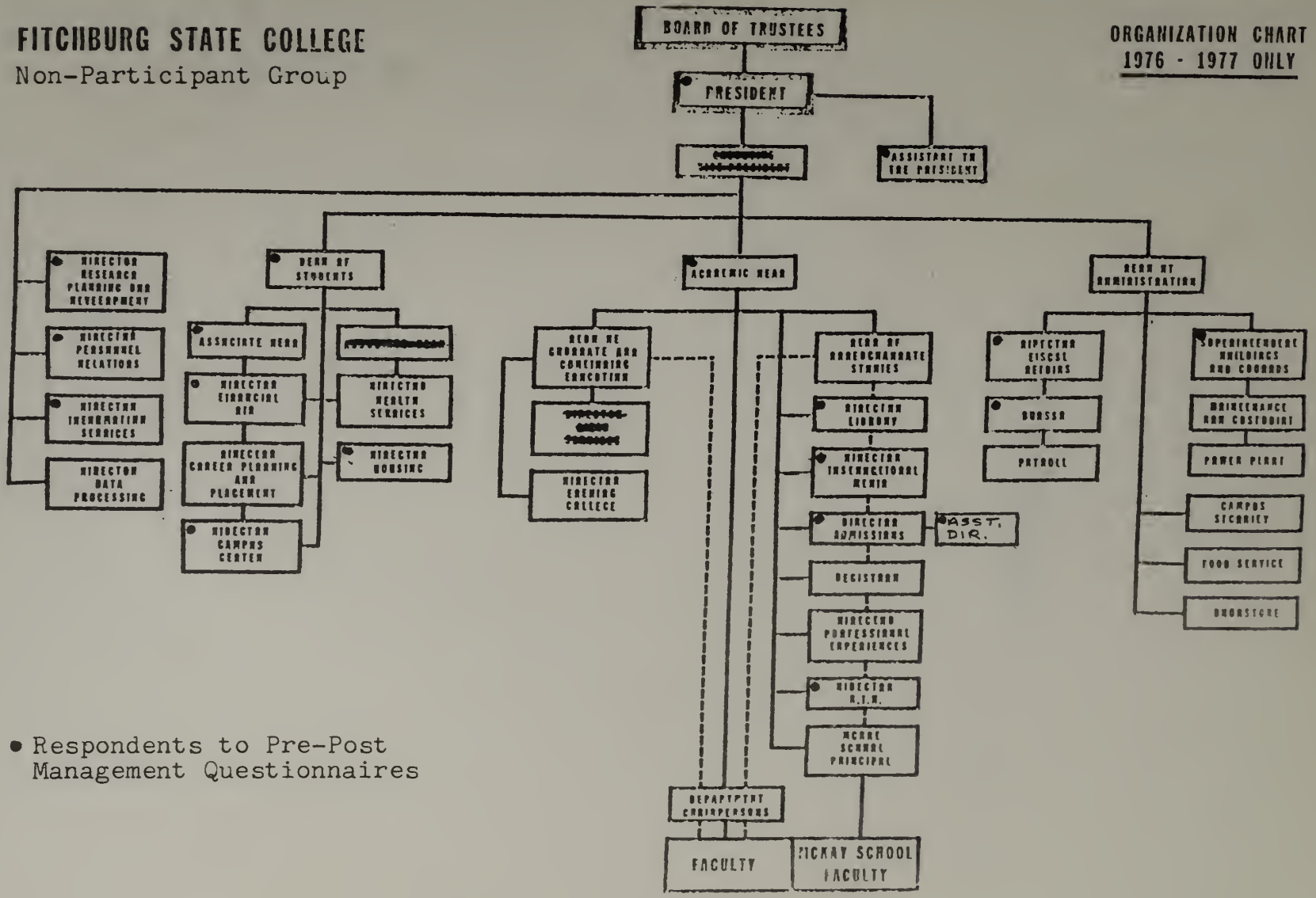
Pt Part-time

— Responsible to Alumni Association with access to the President

FITCHBURG STATE COLLEGE

Non-Participant Group

ORGANIZATION CHART
1976 - 1977 ONLY



- Respondents to Pre-Post Management Questionnaires

Appendix E

TABLE 11

FREQUENCIES ON PRE-POST SURVEYS FOR EACH QUESTION

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	*T	1	39.1	52.2	4.3	-	4.3	4.217	.902
		2	69.6	43.0	13.0	4.3	-	4.478	.898
1									
	*C	1	52.6	42.1	-	5.3	-	4.421	.769
		2	36.8	42.1	10.5	-	10.5	3.947	1.224
	T	1	4.3	8.7	17.4	21.7	43.5	2.045	1.214
		2	43.5	30.4	8.7	13.0	4.3	3.957	1.224
**2									
	C	1	-	5.3	10.5	36.8	47.4	1.737	.872
		2	-	15.8	10.5	42.1	26.3	2.167	1.043
	T	1	43.5	39.1	13.0	-	4.3	4.174	.984
		2	73.9	26.1	-	-	-	4.739	.449
3									
	C	1	42.1	36.8	21.1	-	-	4.211	.787
		2	21.1	52.6	21.1	5.3	-	3.895	.809
	T	1	21.7	26.1	17.4	21.7	8.7	3.318	1.323
		2	73.9	17.4	4.3	4.3	-	4.609	.733
**4									
	C	1	47.4	26.3	26.3	-	-	4.211	.855
		2	36.8	31.6	31.6	-	-	4.053	.848
	T	1	4.3	4.3	-	8.7	82.6	1.391	1.033
		2	47.8	17.4	4.3	13.0	17.4	3.652	1.613
**5									
	C	1	-	5.3	15.8	21.1	57.9	1.684	.940
		2	5.3	10.5	36.8	15.8	31.6	2.421	1.216

* T=Training C=Control

** Responses on these questions were inverted to obtain the MBO RQ.

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1	87.0	13.0	-	-	-	4.870	.344
		2	82.6	17.4	-	-	-	4.826	.388
6									
	C	1	68.4	21.1	5.3	-	5.3	4.474	1.020
		2	52.6	36.8	5.3	-	5.3	4.316	1.003
	T	1	69.6	17.4	8.7	4.3	-	4.522	.846
		2	65.2	26.1	4.3	4.3	-	4.522	.790
7									
	C	1	57.9	26.3	15.8	-	-	4.421	.769
		2	36.8	42.1	15.8	5.3	-	4.105	.875
	T	1	17.4	8.7	26.1	30.4	17.4	2.783	1.347
		2	30.4	34.8	4.3	30.4	-	3.652	1.229
**8									
	C	1	10.5	10.5	31.6	26.3	21.1	2.632	1.257
		2	26.3	10.5	21.1	26.3	15.8	3.053	1.471
	T	1	73.9	21.7	-	-	4.3	4.609	.891
		2	65.2	21.7	4.3	-	8.7	4.348	1.191
9									
	C	1	68.4	10.5	15.8	5.3	-	4.421	.961
		2	63.2	21.1	10.5	-	5.3	4.368	1.065
	T	1	69.6	26.1	-	-	4.3	4.565	.896
		2	60.9	34.8	-	-	4.3	4.478	.898
10									
	C	1	47.4	26.3	15.8	5.3	5.3	4.053	1.177
		2	47.4	31.6	10.5	5.3	5.3	4.105	1.150

**Responses on these questions were inverted to obtain the MBO RQ.

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1	4.3	8.7	30.4	39.1	17.4	2.435	1.037
		2	39.1	30.4	4.3	17.4	8.7	3.739	1.389
**11									
	C	1	10.5	5.3	26.3	31.6	26.3	2.421	1.261
		2	15.8	15.8	26.3	21.1	21.1	2.842	1.385
	T	1	82.6	13.1	4.3	-	-	4.783	.518
		2	47.8	34.8	-	-	17.4	3.957	1.461
12									
	C	1	52.6	31.6	10.5	-	5.3	4.263	1.046
		2	63.2	15.8	10.5	5.3	5.3	4.263	1.195
	T	1	13.0	17.4	13.0	39.1	17.4	2.696	1.329
		2	52.2	43.5	-	4.3	-	4.435	.728
**13									
	C	1	15.8	21.1	26.3	10.5	26.3	2.895	1.449
		2	15.8	10.5	26.3	21.1	26.3	2.684	1.416
	T	1	21.7	39.1	30.4	8.7	-	3.739	.915
		2	47.8	39.1	4.3	4.3	4.3	4.217	1.043
14									
	C	1	36.8	26.3	21.1	15.8	-	3.842	1.119
		2	21.1	42.1	31.6	5.3	-	3.789	.855
	T	1	39.1	56.5	4.3	-	-	4.348	.573
		2	56.5	43.5	-	-	-	4.565	.507
15									
	C	1	36.8	21.1	26.3	10.5	-	3.889	1.079
		2	36.8	36.8	26.3	-	-	4.105	.809
	T	1	39.1	21.7	4.3	17.4	8.7	3.714	1.454
		2	56.5	26.1	17.4	-	-	4.391	.783
**16									
	C	1	47.4	21.1	10.5	15.8	5.3	3.895	1.329
		2	36.8	26.3	15.8	10.5	10.5	3.684	1.376

**Responses on these questions were inverted to obtain the MBO RQ.

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1	60.9	30.4	8.7	-	-	4.522	.665
		2	69.6	30.4	-	-	-	4.696	.470
17									
	C	1	57.9	15.8	21.1	-	5.3	4.211	1.134
		2	42.1	31.6	21.1	-	5.3	4.053	1.079
	T	1	56.5	34.8	4.3	4.3	-	4.435	.738
		2	69.6	30.4	-	-	-	4.696	.470
18									
	C	1	57.9	26.3	10.5	5.3	-	4.368	.890
		2	42.1	42.1	10.5	-	5.3	4.158	1.015
	T	1	26.1	8.7	21.7	26.1	17.4	3.000	1.477
		2	65.2	-	17.4	17.4	-	4.130	1.254
**19									
	C	1	15.8	21.1	31.6	5.3	26.3	2.947	1.433
		2	21.1	15.8	36.8	10.5	15.8	3.158	1.344
	T	1	34.8	30.4	4.3	21.7	8.7	3.609	1.406
		2	43.5	34.8	4.3	4.3	13.0	3.913	1.379
20									
	C	1	15.8	-	5.3	52.6	26.3	2.263	1.327
		2	10.5	31.6	26.3	10.5	21.1	3.000	1.333
	T	1	82.6	17.4	-	-	-	4.826	.388
		2	78.3	17.4	-	-	4.3	4.652	.835
21									
	C	1	57.9	26.3	10.5	5.3	-	4.368	.695
		2	47.4	31.6	10.5	-	10.5	4.053	1.268
	T	1	56.5	39.1	4.3	-	-	4.522	.593
		2	78.3	21.7	-	-	-	4.783	.422
22									
	C	1	57.9	15.8	10.5	5.3	10.5	4.053	1.393
		2	26.3	47.4	21.1	-	5.3	3.895	.994

**Responses on these questions were inverted to obtain the MBO RQ.

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
23	T	1	39.1	26.1	26.1	8.7	-	3.957	1.022
		2	73.9	26.1	-	-	-	4.739	.449
	C	1	26.3	52.6	5.3	10.5	5.3	3.842	1.119
		2	26.3	31.6	31.6	-	10.5	3.632	1.212
24	T	1	91.3	8.7	-	-	-	4.913	.283
		2	87.0	8.7	-	4.3	-	4.783	.671
	C	1	47.4	31.6	10.5	10.5	-	4.158	1.015
		2	68.4	10.5	15.8	-	5.3	4.368	1.116
**25	T	1	43.5	21.7	21.7	13.0	-	3.957	1.107
		2	56.5	30.4	4.3	8.7	-	4.348	.935
	C	1	36.8	21.1	21.1	10.5	10.5	3.632	1.383
		2	15.8	31.6	26.3	15.8	10.5	3.263	1.240
26	T	1	47.8	34.8	13.0	4.3	-	4.261	.864
		2	52.2	34.8	13.0	-	-	4.391	.722
	C	1	26.3	47.4	21.1	-	5.3	3.895	.994
		2	36.8	31.6	26.3	-	5.3	3.847	1.079
27	T	1	65.2	30.4	-	4.3	-	4.565	.728
		2	78.3	17.4	4.3	-	-	4.739	.541
	C	1	57.9	31.6	10.5	-	-	4.474	.697
		2	42.1	47.4	10.5	-	-	4.316	.671
28	T	1	65.2	30.4	4.3	-	-	4.609	.583
		2	47.8	39.1	13.0	-	-	4.348	.714
	C	1	42.1	31.6	26.3	-	-	4.158	.834
		2	31.6	42.1	26.3	-	-	4.053	.780

**Responses on these questions were inverted to obtain the MBO RQ.

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1	60.9	34.8	4.3	-	-	4.565	.590
		2	65.2	21.7	13.0	-	-	4.522	.730
29									
	C	1	36.8	36.8	21.1	5.3	-	4.053	.911
		2	57.9	26.3	15.8	-	-	4.421	.769
	T	1	52.2	34.8	13.0	-	-	4.391	.722
		2	43.5	30.4	-	17.4	8.7	3.826	1.403
30									
	C	1	52.6	31.6	15.8	-	-	4.368	.761
		2	47.4	47.4	5.3	-	-	4.421	.607
	T	1	87.0	13.0	-	-	-	4.870	.344
		2	73.9	21.7	4.3	-	-	4.696	.559
31									
	C	1	63.2	31.6	5.3	-	-	4.579	.607
		2	42.1	47.4	10.5	-	-	4.316	.671
	T	1	60.9	34.8	4.3	-	-	4.565	.590
		2	73.9	21.7	-	4.3	-	4.652	.71[illegible]
32									
	C	1	42.1	42.1	10.5	5.3	-	4.211	.8[illegible]
		2	42.1	47.4	10.5	-	-	4.316	.6[illegible]
	T	1	56.5	39.1	4.3	-	-	4.522	.5[illegible]
		2	56.5	39.1	4.3	-	-	4.522	.5[illegible]
33									
	C	1	31.6	42.1	26.3	-	-	4.053	.7[illegible]
		2	47.4	31.6	15.8	-	5.3	4.158	1.0[illegible]
	T	1	43.5	47.8	3.7	-	-	4.348	.647
		2	69.6	26.1	4.3	-	-	4.652	.573
34									
	C	1	26.3	42.1	31.6	-	-	3.947	.78[illegible]
		2	36.8	42.1	15.8	5.3	-	4.105	.8[illegible]

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
35	T	1	26.1	50.9	13.0	-	-	4.130	.626
		2	52.2	34.8	4.3	8.7	-	4.304	.926
	C	1	26.3	47.4	21.1	5.3	-	3.947	.848
		2	26.3	36.8	31.6	-	5.3	3.789	1.032
36	T	1	55.2	13.0	21.7	-	-	4.435	.843
		2	82.6	8.7	4.3	-	-	4.818	.501
	C	1	42.1	36.8	21.1	-	-	4.211	.787
		2	42.1	36.8	21.1	-	-	4.211	.787
37	T	1	78.3	21.7	-	-	-	4.783	.422
		2	78.3	21.7	-	-	-	4.783	.422
	C	1	63.2	21.1	15.8	-	-	4.474	.772
		2	52.6	21.1	15.8	5.3	-	4.278	.958
38	T	1	60.9	26.1	13.0	-	-	4.478	.730
		2	56.5	26.1	4.3	8.7	-	4.364	.953
	C	1	42.1	26.3	31.6	-	-	4.105	.875
		2	47.4	10.5	36.8	-	-	4.111	.963
39	T	1	39.1	34.8	17.4	4.3	4.3	4.000	1.087
		2	26.1	39.1	21.7	8.7	4.3	3.739	1.096
	C	1	31.6	42.1	21.1	5.3	-	4.000	.882
		2	42.1	26.3	21.1	5.3	5.3	3.947	1.177
40	T	1	47.8	26.1	21.7	4.3	-	4.174	.937
		2	43.5	34.8	17.4	-	4.3	4.130	1.014
	C	1	52.6	26.3	21.1	-	-	4.316	.820
		2	36.8	47.4	10.5	5.3	-	4.158	.834

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1	78.3	17.4	4.3	-	-	4.739	.541
		2	65.2	34.8	-	-	-	4.652	.487
41									
	C	1	57.9	26.3	15.8	-	-	4.421	.769
		2	57.9	31.6	10.5	-	-	4.474	.697
	T	1	69.6	30.4	-	-	-	4.696	.470
		2	39.1	56.5	-	4.3	-	4.304	.703
42									
	C	1	57.9	31.6	5.3	5.3	-	4.421	.838
		2	63.2	26.3	5.3	5.3	-	4.474	.841
	T	1	56.5	34.8	8.7	-	-	4.478	.665
		2	47.8	52.2	-	-	-	4.478	.511
43									
	C	1	42.1	47.4	10.5	-	-	4.316	.671
		2	52.6	31.6	15.8	-	-	4.368	.761
	T	1	43.5	47.8	8.7	-	-	4.348	.647
		2	56.5	39.1	4.3	-	-	4.522	.593
44									
	C	1	52.6	26.3	10.5	10.5	-	4.211	1.032
		2	57.9	31.6	10.5	-	-	4.474	.697
	T	1	56.5	34.8	8.7	-	-	4.478	.665
		2	56.5	43.5	-	-	-	4.565	.507
45									
	C	1	42.1	21.1	26.3	10.5	-	3.947	1.079
		2	57.9	26.3	15.8	-	-	4.421	.769
	T	1	52.2	43.5	4.3	-	-	4.478	.593
		2	73.9	26.1	-	-	-	4.739	.449
46									
	C	1	36.8	42.1	10.5	10.5	-	4.053	.970
		2	42.1	36.8	10.5	10.5	-	4.105	.994

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	6	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
	T	1		26.1	56.5	13.0	4.3	-	4.043	.767
		2		30.4	47.8	8.7	8.7	4.3	3.913	1.083
47										
	C	1		26.3	47.4	26.3	-	-	4.000	.745
		2		26.3	47.4	21.9	5.3	-	3.947	.848
	T	1		8.7	39.1	43.5	4.3	4.3	3.435	.896
		2		4.3	52.2	26.1	4.3	4.3	3.524	.873
48										
	C	1		5.3	31.6	31.6	21.1	10.5	3.000	1.106
		2		5.3	31.6	31.6	21.1	10.5	3.000	1.106
	T	1		17.4	39.1	39.1	4.3	-	3.696	.822
		2		26.1	56.5	4.3	4.3	4.3	4.000	.976
49										
	C	1		15.8	57.9	26.3	-	-	3.895	.658
		2		-	68.4	21.1	-	5.3	3.611	.778
	T	1		13.0	26.1	26.1	34.8	-	3.174	1.072
50										
	C	1		31.6	5.3	21.1	26.3	15.8	3.105	1.524
	T	1	13.0	4.3	39.1	17.4	13.0	13.0	3.478	1.504
51										
	C	1	26.3	5.3	21.1	36.8	5.3	-	4.111	1.367
	T	1		-	4.3	17.4	43.5	34.8	1.193	.848
52										
	C	1		5.3	15.8	15.8	26.3	36.8	2.263	1.284

TABLE 11 (CONTINUED)

QUESTION NUMBER	GROUP	TEST	RESPONSE PERCENT 6	5	4	3	2	1	MEAN	S.D.
	T	1	4.3	4.3	8.7	-	43.5	30.4	2.190	1.401
53	C	1		10.5	10.5	5.3	47.4	21.1	2.389	1.290
	T	1		-	13.0	34.8	43.5	8.7	2.522	.346
54	C	1		-	5.3	63.2	26.3	5.3	2.684	.671
	T	1		-	26.1	26.1	39.1	4.3	2.773	.922
55	C	1		-	15.8	36.8	36.8	5.3	2.667	.840

TABLE 12

FREQUENCIES ON PRE-POST SURVEYS FOR MBO CONCEPTS

CONCEPT	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
Attitude about participating in specific stages of the MBO process	T	1	8.4	87.0	4.3	-	-	4.043	.367
		2	4.3	82.6	13.0	-	-	3.913	.417
	C	1	15.8	63.2	15.8	-	5.3	3.842	.898
		2	-	31.6	57.9	5.3	5.3	3.158	.765
How manager perceives he/she should do the job.	T	1	-	8.7	30.4	52.2	8.7	2.391	.783
		2	4.3	65.2	26.1	4.3	-	3.696	.635
	C	1	-	5.3	42.1	42.1	10.5	2.421	.769
		2	-	31.6	42.1	26.3	-	3.053	.780
How manager perceives subordinates should do their jobs.	T	1	-	78.3	17.4	4.3	-	3.739	.541
		2	13.0	78.3	8.7	-	-	4.043	.475
	C	1	5.3	52.6	31.6	5.3	5.3	3.474	.905
		2	-	47.4	47.4	-	5.3	3.368	.761
Attitudes about elements basic to the MBO process.	T	1	-	91.3	4.3	4.3	-	3.870	.458
		2	4.3	91.3	4.3	-	-	4.000	.302
	C	1	5.3	63.2	26.3	-	5.3	3.632	.831
		2	-	52.6	42.1	-	5.3	3.421	.769
Willingness to participate in collaborative goal setting.	T	1	-	47.8	52.2	-	-	3.478	.511
		2	17.4	56.5	26.1	-	-	3.913	.668
	C	1	-	42.1	47.4	10.5	-	3.316	.671
		2	-	10.5	68.4	21.1	-	2.895	.567

TABLE 12 (CONTINUED)

CONCEPT	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
Willingness to delegate authority consistent with responsibility.	T	1	-	34.8	56.5	8.7	-	3.261	.619
		2	26.1	47.8	26.1	-	-	4.000	.739
	C	1	-	15.8	57.9	21.1	5.3	2.842	.765
		2	10.5	63.2	21.1	-	5.3	3.737	.872
Willingness to promote self-direction and self-control.	T	1	-	26.1	60.9	13.0	-	3.130	.626
		2	261.	60.9	13.0	-	-	4.130	.626
	C	1	-	26.3	57.9	15.8	-	3.105	.658
		2	5.3	47.4	42.1	5.3	-	3.526	.697
Willingness to provide feedback and open communications.	T	1	4.3	39.1	47.8	8.7	-	3.391	.722
		2	21.7	65.2	13.0	-	-	4.087	.596
	C	1	10.5	21.1	52.6	10.5	5.3	3.211	.976
		2	5.3	21.1	63.2	10.5	-	3.211	.713
Willingess to promote self-evaluation and individual development.	T	1	-	43.5	52.2	4.3	-	3.391	.583
		2	34.8	43.5	17.4	4.3	-	4.087	.848
	C	1	5.3	21.1	63.2	10.5	-	3.211	.713
		2	10.5	31.6	42.1	15.8	-	3.368	.895
Belief in performance evaluation based on results achieved for self and others.	T	1	17.4	78.3	4.3	-	-	4.130	.458
		2	26.1	52.2	21.7	-	-	4.043	.706
	C	1	21.1	57.9	15.8	-	5.3	3.895	.937
		2	10.5	42.1	36.8	5.3	5.3	3.474	.964

TABLE 12 (CONTINUED)

CONCEPT	GROUP	TEST	RESPONSE PERCENT 5	4	3	2	1	MEAN	S.D.
Willingness to have own evaluation include MBO.	T	1	47.8	39.1	13.0	-	-	4.348	.714
		2	39.1	39.1	21.7	-	-	4.174	.778
	C	1	52.6	26.3	21.1	-	-	4.316	.820
		2	31.6	52.6	15.8	-	-	4.158	.688
MBO Readiness Quotient	T	1	-	26.1	69.6	4.3	-	3.217	.518
		2	-	82.6	17.4	-	-	3.826	.383
	C	1	-	26.3	63.2	10.5	-	3.158	.602
		2	-	31.6	63.2	-	5.3	3.211	.713